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ABSTRACT

The North Carolina project reviewed here was conducted to develop procedures to enable an individual to transfer credit from an allied health education program in one setting to some program in higher education. Chapter 1 reviews barriers to educational mobility and presents an overview of the project, which identified specific problems that affect transfer of credit and proposed solutions in the form of guidelines. Transfer policies or articulation agreements are discussed in chapter 2, and basic questions such agreements attempt to address are identified. Relevant characteristics of higher education in North Carolina are described in the third chapter. The process of bringing educators together to discuss transfer and allied health curriculum problems is described in chapter 4. Chapter 5 presents the development of allied health education, identifies pathways to professional status in allied health, and describes three curriculum models. The evolving nature of ten allied health disciplines involved in the articulation project are presented in chapter 6 along with the present status of each. Problems and the recommended guidelines related to the transfer of credit are listed in chapter 7, and chapter 8 describes events which have occurred as a result of the articulation project, identifying continuing related problems. (BL)

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Health Manpower References

ARTICULATION IN ALLIED HEALTH EDUCATION

The North Carolina Experience

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

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in conjunction with
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and
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PREFACE

The major goal of the Allied Health Articulation Project was to develop procedures to enable individuals to transfer credit from an allied health program in one setting to some program in higher education. Prior to this effort, transfer was generally understood to be between a two-year institution and a senior institution. With the work of this project, transfer of credit may be between two programs in one institution, or between institutions offering the same level of degrees, or between a program in a non-degree-granting institution and a degree-granting institution.

Unnecessary barriers often block the way of those who have chosen a career in the health professions and seek to move from one institution to another. This project has sought to identify these barriers and to suggest ways of removing them. The recommended guidelines developed in this project are not fully implemented and are not binding on any institution. Yet, they represent a major step toward improving opportunities for transfer.

Recommendations growing out of this project are the result of many hours of hard and effective work by each of the Committees associated with the project. Without their interest, patience, and perseverance this project would not have succeeded. Special recognition is due to each of the Committees for providing a description of the status of its allied health discipline which is presented in Chapter 4.

Standing behind each of these committees and their work were the major sponsors of the study--The General Administration of the University of North Carolina, the North Carolina Department of Community Colleges, and the Joint Committee on College Transfer Students. These agencies and the educational institutions identified with them must continue the work initiated by this project until unnecessary barriers to transfer of credit are removed.

This experience has been invaluable to faculty and administration in higher education throughout North Carolina. The purpose of this monograph is to document this experience with the hope that others who wish to remove unnecessary barriers to career mobility may find this action model and recommended guidelines helpful in planning their strategies.

Dr. Ralph H. Boatman, Director of the Office of Allied Health Sciences, University of North Carolina at Chapel Hill, served as Director of the Articulation Project. Dr. John W. Huther, Associate Director for Fiscal Affairs, Illinois Board of Higher Education, formerly served as Associate Director of the Articulation Project.

July, 1975

1. INTRODUCTION

Mobility has long been a distinguishing feature of American society. But only in recent years has it become a characteristic of higher education which has commanded attention and concern. The number of students moving from one institution to another has steadily increased over the past decade. At the same time, the need for academic credentials in all kinds of employment has also increased. This has resulted in demands for further education by those who are already employed but seeking upward career mobility.

These developments have pointed up the problem of transferring academic credit from one institution to another. An individual may encounter the problem when he attempts to obtain credit for work completed in another institution or even for work completed in another program within the same institution. Or he may encounter the problem when he attempts to obtain academic credit for knowledge and skills acquired outside traditional academic institutions.

The transfer of credit may be a more intense problem in allied health education than in any other field of study. The rapidly evolving nature of the allied health professions, the shift of many training programs from hospital to educational settings, and the need for qualified faculty and supervisors with advanced training contribute to the intensity of the problem.

North Carolina colleges and universities have been working since the early 1960's to solve problems related to the transfer of academic credit. Tackling the problem of credit transfer in allied health education in the 1970's was a logical outgrowth of earlier efforts to solve transfer problems and to expand opportunities for educational and career mobility.

Barriers to Educational Mobility

The barriers are numerous and discouraging. Rarely is any single barrier insurmountable. But overcoming one may require more time than an individual feels he can afford. Confronted with a combination of barriers, an individual may be persuaded that he should not attempt career advancement at all.

Community college graduates encounter such barriers in a variety of ways. Graduates who have done well in an allied health program and have secured licensure or certification are confronted by a barrier when they are told any of the following:

"We realize you have completed two years of college work, but we can accept only one year. It will take you about three years to get a baccalaureate degree."

"Your associate degree will not excuse you from completing the math and science courses which we require all entering freshmen to have."

"We will be happy to accept you as a transfer student. But we will not be able to tell you how much credit you will receive for your community college work until you have completed a semester or two of our work."

"We can't give you credit for all of your professionally-related course work. Some of it is similar to our upper division work and we can't give credit when the work was actually completed at the lower division."

"You will have to take some of the basic professionally-related courses over with us because your previous courses only cover part of what we cover."

"Your previous course will have to be validated. We will do this by giving you examinations on some of the courses you have taken. For the rest of the courses, we will talk to your professors and evaluate the course texts."

"We cannot give you credit for some of your course work because we do not offer anything similar to it in our institution."

"We cannot give you credit for your English and biology courses because your community college catalog says they are specifically restricted to persons taking technical programs and not planning to transfer."

Practicing allied health professionals who lack academic degrees can also be discouraged by barriers if they attempt to seek such credentials. They are confronted by barriers when they are told any of the following:

"We cannot give you credit for any of your training acquired in a hospital-based program."

"We cannot give you credit for any of your training acquired in a military program."

"We realize you have a number of years of experience. But we have no way of validating how much you know. You will have to take our entire program."

The obstacles to easy transfer of credit as suggested by these remarks serve ultimately to block people from advancement in their allied health professions. The North Carolina Allied Health Articulation Project was conceived as a way to identify the barriers to educational mobility and to suggest ways to remove such barriers. These suggestions are presented as guidelines in Chapter 7. of this monograph.

Overview of the Articulation Project

The major goal of the Allied Health Articulation Study was to develop procedures which enable an individual to transfer credit from an allied health education program in one setting to some program in higher education. Prior to this effort, transfer was generally understood to be restricted to the "transfer" programs in two-year institutions--programs leading to an Associate in Arts (AA) Degree or Associate in Science (AS) Degree. But with the work of this project, the concept of transfer has been expanded to include credits from occupational or career programs in two-year institutions--programs leading to the Associate in Applied Science (AAS) Degree.

Although many pathways have evolved which lead to professional status in the allied health professions, they are giving way to established programs in institutions of higher education. The Articulation Project identified three basic curriculum patterns which are expected to prevail:

1. Pre-Professional Curriculum--Associate Degree (optional)
2. Basic Professional Curriculum--Academic Certificate or Associate Degree.
3. Intermediate Professional Curriculum--Academic Certificate or Associate Degree.

Because each of these curriculum patterns should permit transfer of credit to programs in senior institutions, each may be thought of as a transfer route or model.

Allied health professionals desire transfer credit for career mobility and advanced higher education, according to individual interests and ability. Generally, they seek to further their education in any of the following areas: advanced professional education; advanced and other professional education (teacher education, administrator education); advanced education in a related science (chemistry, anatomy); or expanded liberal arts education.

The heart of the articulation problem is the transfer of academic credit which may or may not be recognized and accepted by a senior institution. Specific problems which affect transfer of credit were identified by the Articulation Project and solutions were proposed in the form of guidelines.

Solutions were not suggested for all transfer problems associated with allied health education. However, the project was valuable for these reasons:

1. It was the first systematic effort in the United States on a statewide basis to study transfer problems in allied health education and to expand the concept of transfer to include credits from occupational or career programs in two-year institutions.
2. Problems identified by the project and accompanying recommendations form a basis for further study of transfer problems by educational institutions and professional associations and for development of a statewide plan for allied health education.
3. A large number of institutions in North Carolina, especially technical institutes, were involved for the first time with senior institutions to find solutions to problems of transferring credit earned in a technical or occupational program.
4. The project should serve as a first step to developing a simplified statement concerning transfer of credit for allied health and other technical and vocational programs.

Overview of the Monograph

North Carolina's experience with solving problems related to the transfer of credit is described in the remaining chapters of this document.

Attempts to solve transfer problems on a statewide basis have been undertaken in a number of states. The policies or articulation agreements as they are often called are discussed in Chapter 2. The basic questions or problems which such agreements attempt to address are identified in this chapter.

Characteristics of higher education in North Carolina are described in the third chapter. Colleges and universities in the state have nearly 15 years of experience with seeking solutions to transfer problems. This experience which was vital to the allied health project is traced in Chapter 3.

The process of bringing educators together to discuss transfer problems and allied health curriculum problems was as important as the guidelines or proposed solutions to the problems. This process is described in the fourth chapter of the monograph.

The development of allied health education is presented in the fifth chapter. Of special significance in this section is the identification of pathways to professional status in allied health and three curriculum models.

Ten allied health disciplines were involved in the articulation project. The evolving nature of each discipline and the status of each at the time of the project are described in Chapter 6. The guidelines or recommendations developed by the Articulation Project are presented in Chapter 7.

Finally, the eighth chapter describes events which have occurred as a result of the articulation project. This chapter also identifies continuing problems related to the transfer of credit.

Because of its unique history and characteristics, each state must identify its own problems in higher education and seek its own solutions to such problems. However, the efforts of other states to deal with problems which are similar should always be regarded as a source of help. This account of North Carolina's experiences was prepared in the hope that it will provide such assistance to others.

2. TRANSFER OF CREDIT AND ARTICULATION AGREEMENTS

The transfer of academic credit involves basic and long standing problems in higher education. An individual encounters these problems when he attempts to enter a college or university with academic work completed in another institution. Efforts to overcome problems of this nature are formalized in agreements among colleges and universities. Such agreements may be called transfer policies, transfer guidelines, or articulation agreements.

This chapter identifies basic problems which articulation agreements must overcome. Some problems are inherent in the American academic degree structure. Some problems are caused by the way in which degrees as credentials are linked with access to careers and mobility within careers. But the most troublesome problems are the result of the way in which higher education curricula have evolved in the United States.

Articulation Defined

In a recent book on statewide articulation agreements, Kintzer defined articulation as "the method or process of joining together."[1]

Such a definition implies that articulation agreements should provide some sort of link between fixed or known entities. More specifically, it suggests that the content of courses and curricula should be clearly defined. It suggests that there should be general agreement about what is measured by course examinations. And it suggests that there should be general agreement about what grades represent. In brief, the definition implies that there should be near certainty about what it is that is being "joined together."

The problem, however, is that course content, examinations, and grades are matters wide open to varying interpretations and disagreements.

Process of Curriculum Development

Moreover, this lack of agreement has high probability of continuing given the process by which new additions to curriculums generally come into existence. The process is distinguished by considerable independent individual effort. Although a new course is embedded in a catalogue with the blessings of countless committees, the result is an achievement of an individual often working alone. An individual conceives the course, gives the conception written expression, develops a formal proposal, nurtures the proposal through modifications and committees, and ultimately teaches the course. And when the course is assigned to a new professor, it acquires still another definition by virtue of the way in which he selects and organizes his material. Curricula or special programs of study then become collections of these independently developed courses. At their worst, the courses are simply tied together by numerical ordering. At their best they are unified by a rationale.

Such a process holds little promise that those elements which need to be identified in order to make articulation possible will ever be pinned down. The uncertain value of transfer credit resulting from this process resembles the fluctuating chaos of the international monetary market. Sixty hours of credit will vary in value from one institution to the next and may vary within institutions depending upon the individual responsible for the assessment. The transfer student is caught like a foreign traveler not knowing the native language and not certain of the best exchange market for his money.

In brief, the way in which curricula evolve and the immediate needs of transfer students are in conflict. Specifying course content and the value of course credits will inevitably reduce professorial and institutional autonomy in the development of curricula. Meeting the needs of transfer students and preserving such autonomy is a fundamental problem in efforts at articulation.

Thus far, articulation efforts have resulted in virtually no reduction of the autonomy of professors to define courses, examinations, and grades.

Two recent developments which are related to the definition of course content, however, should be noted in passing. One is the College Level Examination Program (CLEP), which in effect defines course content through examinations external to institutions of higher education. The other is an attempt to identify behavioral objectives or competencies to be mastered by each student in a course. Even with these exceptions, there is a little likelihood that higher education in general will achieve the specification of content and grades implicit in Kintzer's definition of articulation.

Rather than attempting to reduce the autonomy of professors in determining course content and grades, articulation efforts to date have concentrated mainly upon procedures in the transfer process. The first major effort at guidelines which were published in 1966 by a joint committee of three national organizations reflect this emphasis. The issues and guidelines identified by the committee focus upon the admissions process, obtaining transfer credit, reducing loss of time, counseling, and agreements among institutions.[2]

In the case of Willingham's recent comprehensive review of the literature on articulation, ten problem areas are identified: curriculum articulation, guidance in the community college, orientation at the senior colleges, diversity of admission procedures, diversity of academic standards, credit, access/retention, need for financial aid, need for space, and articulation procedures. With the exception of the first problem, the list reflects an emphasis upon procedures rather than specification of course content and grades.[3]

Student Needs and Articulation Agreements

From the perspective of the student, the most immediate problems in the transfer situation are admissions and the amount of credit to be transferred. In general, three approaches have been available to resolve these problems. Individuals may negotiate separately with institutions. Or two institutions may enter into bilateral agreements to deal with transfer problems in a more systematic fashion. Or institutions may participate in some form of statewide plan or agreement.

The greatest disadvantage of the first two approaches is their inadequacy in the face of large numbers of transfer students. One estimate has placed the numbers of transfer students nationally enrolled in one year as high as 500,000.[4] In the case of North Carolina, a total of 9,780 transfer students enrolled in the fall of 1972: 3,534 transferred from two-year to senior institutions; 1,008 transferred from senior to two-year institutions; 469 transferred from one two-year institution to another; 2,252 transferred from one senior institution to another; and the remainder transferred from various out-of-state institutions.[5] The implication of numbers like these is clear: Systematic procedures are needed to best serve large numbers of transfer students.

At present, the greatest hope for uniform and systematic treatment of the transfer student lies in the comprehensive statewide articulation agreement. A useful report on the status of such agreements nationally may be found in Kintzer's book. He has classified agreements existing in 22 states and has briefly described the emerging status of agreements in the other 28 states.[6]

Summarizing the basic features of statewide articulation agreements is hazardous because of the variety of detail incorporated to meet conditions peculiar to individual states. However, those features which address the student's most pressing problem--admission and transfer of credit--appear reducible to four basic issues which may be posed as questions: Should all associate degrees be considered equal for transfer purposes? Should admission to a senior institution be automatic for those holding associate degrees? Should associate degrees be considered as the equivalent of one-half of baccalaureate degrees? And what kinds of course work should transfer credit be given for?

Responses to these questions may vary considerably in the extent to which they are liberal or generous in what they provide. The following sections are intended to convey a sense of latitude possible in responding to each question.

Differences Among Degrees

Usually, articulation agreements are developed on the assumption that associate degrees are not equal for transfer purposes. The associate in arts (A.A.) and the associate in science (A.S.) degrees in most states are awarded for completion of transfer or college-parallel programs of instruction. The associate in applied science (A.A.S.) degree is awarded for completion of technical or occupational programs which are not generally intended for transfer. In New York state even a third category of degree has been recently approved called the associate in occupational studies (A.O.S.)--a degree to be awarded for completion of programs in proprietary schools which do not include course work in general education.

The problem for allied health curricula is that virtually all lead to the A.A.S. degree. To say that for transfer purposes A.A. and A.A.S. degrees are comparable or equal would be the most liberal response by articulation agreements. But no agreements go this far.

At the other extreme, probably the greatest difference between the A.A. and A.A.S. degrees is expressed in an articulation agreement for Ohio. The agreement proposes to "establish a minimum transferability of 90 hours for the A.A. and 45 hours for the A.A.S."[7] Intentional or not, the agreement is suggesting that for transfer purposes the A.A.S degree is equivalent to one-half of the A.A. degree.

The net effect of maintaining this distinction or any other distinction between A.A. and A.A.S degrees is that articulation agreements must then spell out which portions of an A.A.S. degree program are transferable. This leads inevitably to the assessment of programs on a course-by-course basis. But such assessment is little better than having no agreement at all since it does not promote a uniform treatment of transfer credit.

Automatic Admission

The question of admission is especially critical for the public sector of higher education. Two-year institutions with open-door admission policies share some of the problem of extending educational opportunity with senior institutions when their associate degree graduates attempt to transfer. Should would-be transfer students with associate degrees be admitted automatically by public senior institutions?

The most liberal response to this question would be "yes" without any reference to type of degree. A less liberal response would admit all A.A. degree applicants but would screen A.A.S. degree applicants. The articulation agreement for the University of Nevada System contains an example of such a provision for the A.A. degree: "Applicants who earn an associate degree from the Community College Division qualify for admission to a University division." [8]

Admission of transfer students from allied health programs, however, is complicated by more than their possession of an A.A.S. degree. Space in allied health programs at the senior institution level is usually at a premium, especially in laboratory and clinical facilities. Attempting to ease the transfer student's problems by making the A.A.S. degree automatically acceptable for admission does not solve the limited space problem. In fact, it is only likely to force senior institutions to seek new criteria for determining admissibility to allied health programs.

Some efforts are being made to open new doors for those with A.A.S. degrees. Special programs in strictly upper division institutions like Florida International University are one form of such an effort. A similar effort may be seen in the creation of special upper division baccalaureate degree programs such as those offered by Appalachian State University and Rochester Institute of Technology. Both institutions offer bachelor of technology (B.T.) degrees which admit A.A.S. degree applicants. Programs like these allow two-year institutions to maintain the distinction between A.A. and A.A.S. degrees and to pass the distinction along to senior institutions to preserve in the form of the B.A. and B.T. degrees.

But while such tracking may offer relief to the transfer admissions problem, it leaves unresolved the appropriateness of such an approach to the allied health professions. Whether a bachelor of health sciences degree, as the equivalent of a the B.T. degree, has a place on any health career ladder is a prior question, one that should be settled before addressing the transfer admission question.

Amount of Credit to be Given

The question of how much time and credit an associate degree represents in relationship to the baccalaureate degree is a basic problem in most agreements. The Florida agreement which covers only the A.A. degree states "Students receiving the Associate of Arts degree will be admitted to junior standing within the University System."[9] This implies that the A.A. degree represents one-half of the baccalaureate degree. The agreement for the state of Ohio makes it explicit. "Receipt of the Associate of Arts degree...will signify a halfway point in the progression toward a baccalaureate degree."[10] In a sense, then, both of these responses assert a very liberal or generous position with respect to the amount of credit and A.A. degree should represent.

Conceivably, similar statements could be made about A.A.S. degrees for allied health programs in relationship to special programs in senior institutions. Where such statements cannot be made, articulation agreements are forced to make provision for assessment of credit on a course-by-course basis. Such a procedure brings agreements face-to-face with the unresolved problems of the definition of course content and the meaning of grades described earlier. Furthermore, such a procedure is the least liberal response to the question of how much credit should be given. It is a procedure which says that two years of work in a two-year institution is worth less than two years credit upon transfer.

What Credit is Given For

When a transfer student is not automatically given a full two years of credit for an associate degree and in those instances in which the transfer student does not have an associate degree, the question of what the student is given credit for becomes primary.

A major problem for transfer students from allied health programs is a deficiency in course work in general education. The most liberal response to this problem would be to declare that the amount of general education is sufficient for a baccalaureate degree. When this response is not made, an articulation agreement is forced into requiring additional general education course work at the senior institution. And this requirement in turn opens up the prospect of requiring lower division work at the upper division level thereby inviting the criticism that the baccalaureate is merely two associate level degree programs.

The latter criticism is especially strengthened if full credit is given for health profession courses and little else is required at the upper division level in the way professional course work.

Which professional courses at the two-year college level should receive credit at the senior institution is one of the most difficult questions facing authors of articulation plans for allied health professions. These questions were considered in the 1973 North Carolina Allied Health Articulation Project, but they were not completely answered because the project advocated accepting only those credits which have been validated in some unspecified way.

In summary, the four basic questions identified above suggest varying levels of acceptance of transfer credits, any one of which may be adopted for a statewide articulation agreement.

The highest level of acceptance may be viewed as granting credit for any associate degree as exactly one-half of the baccalaureate degree. A slightly less liberal level would offer credit based upon the type of associate degree involved. A still less liberal level would involve granting credit for blocks of courses, e.g., general education as opposed to professional education courses. And the least liberal level of acceptance would be demonstrated by evaluating and validating a student's academic record on a course-by-course basis in order to determine the amount of credit which should be granted.

How liberal an agreement should be is a judgement for each state to determine. In more ways than one, the problem of articulation is a matter of degrees.

Conclusion

Statewide articulation agreements or transfer policies will vary depending upon how they answer the questions identified above. But statewide agreements or polices should be similar in their acceptance of a few basic points.

They should view post-secondary education as a great variety of routes leading to satisfying careers. However, only some of the routes will lead to a baccalaureate degree in four years or less.

This means recognizing that educational programs differ. It means that the objectives of associate degree programs differ. It means that the objectives of some associate degree and baccalaureate degree programs differ. Because of these differences, the length of time to a baccalaureate degree will of necessity vary for those interested in reaching such a destination after starting an educational route headed in another direction.

In the final analysis, articulation agreements should not alter educational routes so that they converge on the same point at the same time. But they should always keep open the opportunity to traverse from one educational route to another.

Notes

1. Frederick C. Kintzer, Middleman in Higher Education (San Francisco: Jossey-Bass, 1973), p. 1.

2. Joint Committee on Junior and Senior Colleges of Association of American Colleges, American Association of Junior Colleges, and American Association of Collegiate Registrars and Admissions Officers, Guidelines for Improving Articulation Between Junior and Senior Colleges (Washington: American Council on Education, 1966).

3. Warren W. Willingham, The No. 2 Access Problem: Transfer to the Upper Division (Washington: American Association for Higher Education, 1972).

4. Larry A. VanDyne,"The Transfer Boom: 500,000 a Year Are Switching Colleges," The Chronicle of Higher Education, October 2, 1972, p. 3

5. Statistical Abstract of Higher Education in North Carolina 1972-73 (Chapel Hill: The University of North Carolina, 1973), p. 57

6. Kintzer, pp. 35-126.

7. Ohio Board of Regents, "Guidelines on Articulation Between Public Two-Year Campuses and Public Universities," June 15, 1973.

8. University of Nevada System, "Community College/University Articulation Policy," March 3, 1973.

9. Articulation Coordinating Committee, "Interpretation and Annotations of the Articulation Agreement Between the State Universities and the Public Community Junior Colleges of Florida, September, 1971 to April, 1973," (Tallahassee: Florida State Department of Education, June 30, 1973).

10. Ohio Board of Regents.

3. THE NORTH CAROLINA SETTING

North Carolina provided an excellent setting in which to undertake a statewide articulation plan for allied health education. It had institutional diversity and organizational complexity; at the same time, it had many institutions with a strong desire to preserve institutional autonomy. Moreover, by 1972, it had at least a decade of experience with efforts to identify and solve problems related to the transfer of credit. Most problems addressed to date are common to other states with numerous colleges and universities, but at least one problem is peculiar to North Carolina and critical to better articulation in allied health education.

Institutional Diversity

At the time that the articulation project was initiated, education beyond the high school in North Carolina was offered in over 100 institutions. There were 5 institutions offering the doctorate as its highest degree, 6 offering the masters as its highest degree, 36 offering the baccalaureate as its highest degree, and 67 offering the associate degree as its highest degree.

In addition, education beyond high school was offered in 3 military centers, 2 bible colleges, 1 theological seminary, 12 business schools, 6 trade schools, 13 hospital-based nursing programs, and 27 hospital-based allied health programs. This diversity of educational settings and the many potential avenues for transfer are displayed in Figure I.

Organizational Complexity

No single organization speaks for all of the post-secondary education in the state.

In the public sector, 16 university campuses were reorganized in 1972 and placed under the Governing Board of The University of North Carolina. Previously, a Board of Higher Education had coordinating responsibility for these university campuses which included the Consolidated University of North Carolina consisting of 6 campuses. In effect, the reorganization of 1972 abolished the Board of Higher Education and expanded the Consolidated University of North Carolina to give it governing responsibility for all public university campuses.

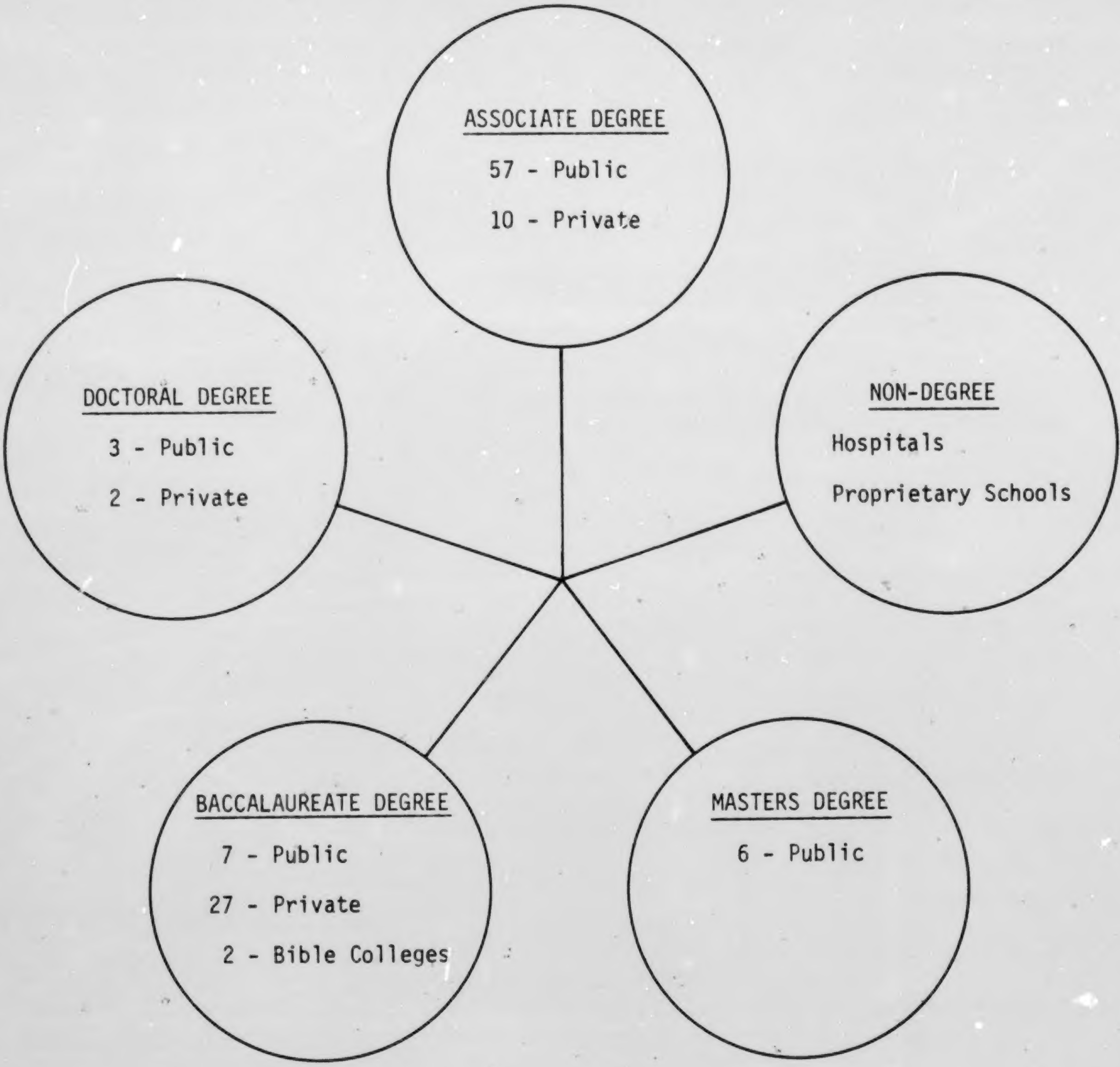
With respect to public two-year institutions, there were 16 community colleges and 41 technical institutes when the articulation project was started. The primary difference between these two types of institutions may be found in program offerings. A community college is authorized by a statute to offer freshman and sophomore courses of a college of arts and sciences, while a technical institute is not. Both types of institutions are coordinated by the Department of Community Colleges under the Board of Education.

In the private sector, 29 senior institutions and 12 junior colleges are represented by the North Carolina Association of Independent Colleges and Universities. This organization, which was created in 1968, has concentrated primarily upon securing passage of legislation to support private higher education.

More germane to articulation efforts in the state has been the existence of two other organizations. The North Carolina Association of Colleges and Universities represents all private institutions, public senior institutions and community colleges. The North Carolina Association of Junior Colleges represents all private and public two-year institutions:

Figure I

EDUCATIONAL INSTITUTIONS IN NORTH CAROLINA BY HIGHEST DEGREE AWARDED



junior colleges, community colleges, and technical institutes. In 1965 these two organizations with the Board of Higher Education and the Board of Education created the first statewide mechanism for addressing articulation problems--the Joint Committee on College Transfer Students.

The organizational relationships outlined in this section are illustrated in Figure II.

Comprehensive Community College System

More than any other single factor, the rapid growth of public two-year institutions in North Carolina intensified the need to identify problems related to the transfer of credit and to devise solutions to the problems. Full-time equivalent enrollments in these institutions (FTE) grew from about 4,000 in the early 1960's to over 70,000 in the early 1970's. Increased enrollments ultimately meant an increase in the numbers wishing to transfer and an increase in problems attendant upon seeking transfer credit.

Especially significant in the growth of the comprehensive community college system was the development of technical institutes--an organizational facet with serious implications for the transfer of credit in allied health education programs.

The legislative beginning of the community colleges in the state was 1957, the year in which the Community College Act placed the general administration of such institutions under the North Carolina Board of Higher Education.

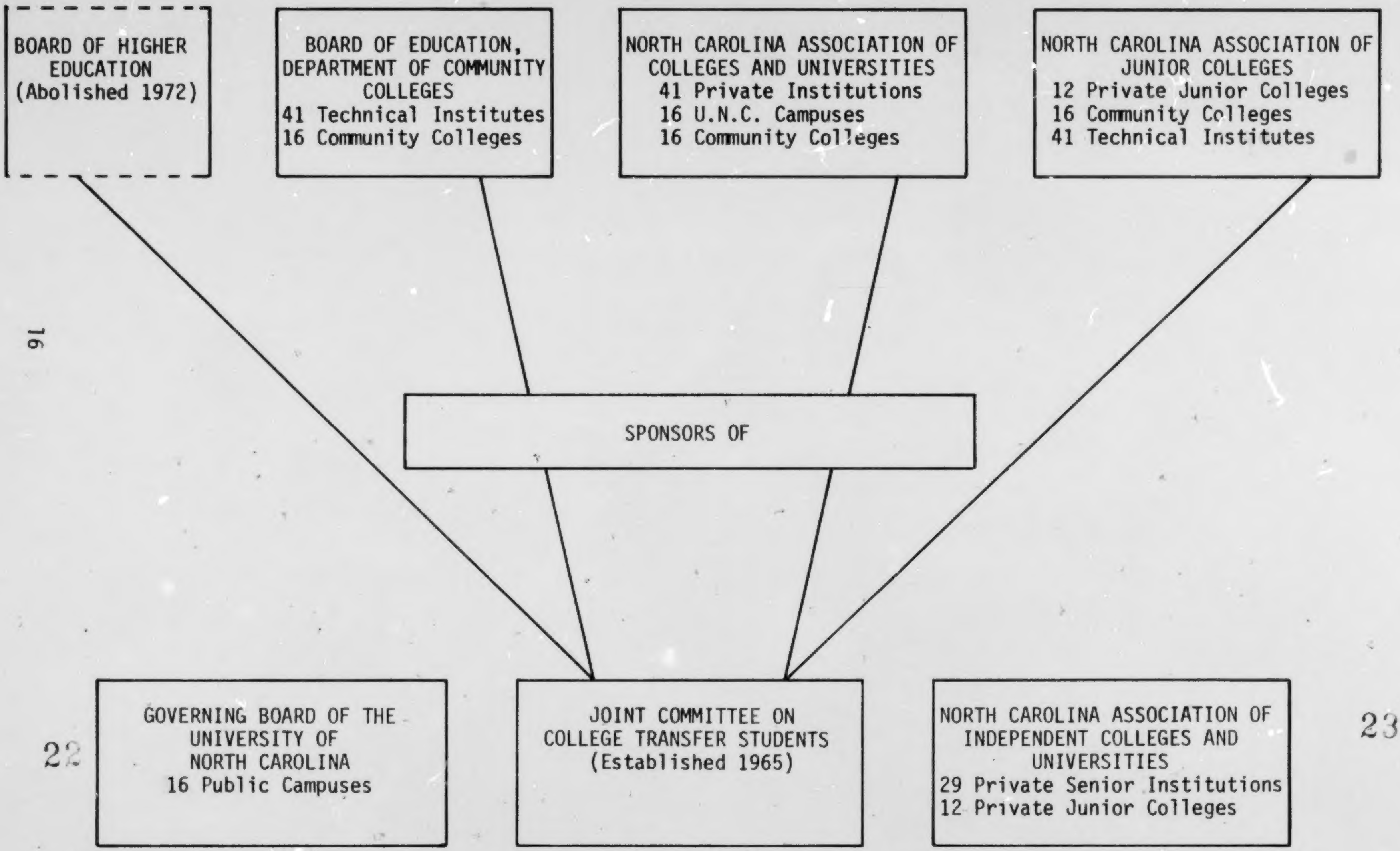
The legislative origin of the technical institutes occurred at the same time with the appropriation of funds for a statewide system of industrial education centers. In 1959, the General Assembly officially authorized establishment of industrial education centers and placed them under the administration of the State Board of Education and local boards of education.

By 1961 there were 18 industrial education centers and 5 community or public junior colleges in operation. As a result of a study of these two parallel systems of post-secondary education, the General Assembly created a single comprehensive system in 1963. General Statute 115A thus placed both types of institutions under the Department of Community Colleges under the State Board of Education. This single system in turn grew to number a total of 57 public institutions by the time of the allied health project--41 technical institutes and 16 community colleges.[1]

Because of these differences in origin for technical institutes and community colleges and because of their statutorily assigned difference in program offerings, careful distinctions have been maintained in the formulation of articulation guidelines by the Joint Committee on College Transfer Students. For example, guidelines approved in 1967 referred to "performance in a junior college transfer program" as the best indicator of probable suscess in a four-year institution.[2] As revised in

Figure II

HIGHER EDUCATION ORGANIZATION IN NORTH CAROLINA


BOARD OF HIGHER EDUCATION (Abolished 1972)
BOARD OF EDUCATION, DEPARTMENT OF COMMUNITY COLLEGES
41 Technical Institutes
16 Community Colleges
NORTH CAROLINA ASSOCIATION OF COLLEGES AND UNIVERSITIES
41 Private Institutions
16 U.N.C. Campuses
16 Community Colleges
NORTH CAROLINA ASSOCIATION OF JUNIOR COLLEGES
12 Private Junior Colleges
16 Community Colleges
41 Technical Institutes
SPONSORS OF
GOVERNING BOARD OF THE UNIVERSITY OF NORTH CAROLINA
16 Public Campuses
JOINT COMMITTEE ON COLLEGE TRANSFER STUDENTS (Established 1965)
NORTH CAROLINA ASSOCIATION OF INDEPENDENT COLLEGES AND UNIVERSITIES
29 Private Senior Institutions
12 Private Junior Colleges

1973, the guidelines refer to "performance in a collegiate program" as the best predictor of success. This reference is in addition to another guideline which states, "Courses taken in technical programs may be transferred to a college or university upon validation of applicable course work through the receiving institution's normal procedures." [3]

In other words, institutional origins in North Carolina created a special distinction between college parallel programs ("collegiate") and technical or occupational programs. This distinction is not unique to North Carolina but has a special force behind it as a result of the way in which institutions have evolved. This distinction created a special problem in the articulation guidelines for allied health programs.

For the most part, allied health programs are technical or occupational in nature and are administratively assigned to this part of a two-year institution's curriculum organization. In North Carolina, this has meant credit earned in such programs has been treated less generously than credit earned in college parallel programs. The problem ultimately received considerable attention in the articulation project and resultant guidelines.

The Beginnings of Articulation

The initial formal attempts at statewide articulation in North Carolina paralleled efforts at the national level. In the early 1960's a national Joint Committee on Junior and Senior Colleges developed articulation guidelines which were eventually published in 1966. [4] At about the same time, a study of the transfer polices of North Carolina colleges was started in order to identify obstacles to transfer.

A 1963 Study Committee of the North Carolina Association of Colleges and Universities reported that there was "unnecessary variety" in the policies and procedures covering transfer of credit. It was found, for example, that five senior colleges imposed limits on the number of transfer students they were willing to accept. Two institutions accepted only one year of work from a junior college; others specified no limit to the amount of acceptable work.

In addition, a majority of the senior institutions refused to grant credit for "D" grades. Ten of the colleges required a "B" average or higher. Twenty-two institutions reduced transferred grades to a "C" value. Much of the work in professional areas was not accepted at all. And general education varied widely in content and credit hours required. [5]

As a result of this report, the Joint Committee on College Transfer Students was established in 1965 by the four organizations mentioned earlier in this chapter.

The Joint Committee sponsored two statewide articulation conferences in 1966. The first was held for academic deans from all colleges and universities. They in turn were asked to appoint one representative from their respective campuses for membership on each of eight articulation study committees. The committees covered admissions, biological sciences, English, foreign languages, humanities, mathematics, physical sciences, and social sciences. Physical education was later added as a ninth committee. Ultimately, about 1,000 educators in the state became involved in articulation efforts through this structure.

The second articulation conference in 1966 brought together all members of the study committees for an orientation to articulation problems which featured Dorothy Knoell as a speaker and consultant. Following the conference, the study committees worked seperately to develop guidelines for their respective areas. These guidelines in turn were approved and published by the Joint Committee on College Transfer Students in November, 1967.

Since that time, articulation study committees have continued to refine guidelines for their respective areas. Recently the Joint Committee published a revised edition of all transfer guidelines. In addition, the Joint Committee has compiled all of the separate policies of senior institutions covering transfer students. These policies were first published in 1970. They were published in a revised form in 1972 and will be updated every two years.[6]

The significance of the activity of the Joint Committee is threefold. First, it has stimulated communication among a great many people in a variety of institutions. Secondly, it has culminated in a published record of guidelines and policies which are readily available for reference. And thirdly, because guidelines are recommended to institutions for acceptance on a voluntary basis, it has demonstrated that cooperation with out coercion is possible.

Problems at the Time of the Project

In spite of the considerable progress in articulation, problems with the transfer of credit persisted in the early 1970's. For the most part, the Joint Committee had concentrated on the problems of students transferring from college parallel programs in two-year institutions. This left unresolved many of the problems of students attempting to transfer from technical or occupational programs which include programs in allied health education.

Some dimensions of these problems were revealed in a survey of senior institutions conducted in February, 1973. Out of 44 institutions, 23 indicated that they had not accepted transfer students who had graduated from technical or occupational programs. Furthermore, 28 of the 44 institutions reported that they had never accepted transfer students who started a technical program but did not complete it. In effect, the distinction between college parallel programs and technical programs which evolved from the institutional origins of community colleges and technical institutions was still maintained by many institutions.

Even institutions which accepted students who had been enrolled in technical programs maintained practices which hindered easy transfer. Two, for example, indicated they limited the numbers of students they would accept. Out of twenty institutions, 11 indicated that graduates of technical programs in two-year institutions had to meet high school unit requirements established for the senior institution's beginning freshman. The effect of this requirement alone is to make a student return to "GO" if he lacks sufficient credits in math or science or history.

In 11 out of 20 institutions, students were not given credit for half of the hours required for the baccalaureate degree even if they had completed a two-year technical program. In 6 out of 20 institutions, transfer credit was not given for general education courses completed in a technical program. And 8 of the 20 institutions which accepted transfer students from technical programs required further validation of course work in the technical program.

Of particular importance to allied health education were the survey responses on professional courses, clinical work, and related work experience. A few institutions (5 out of 20) indicated they did not give credit for professional courses successfully completed in a technical program. Over half of the institutions (12 out of 20) did not give credit for clinical work. And 8 out of 20 indicated that they did not recognize credit-by-examination for work experience related to the field of study.

In summary, these survey responses indicated that a student who started post-secondary education in a technical program faced many uncertainties if he wished to acquire education and professional preparation beyond a two-year program. Career mobility was limited in the first place by barriers to educational mobility.

This situation, interestingly enough, had its counterpart within the comprehensive community college system itself. A survey among the public two-year institutions in March, 1973 revealed barriers to transfer from a one-year vocational program to a two-year technical program which leads to an associate degree.

Out of 56 public two-year institutions, 16 indicated that they would not permit transfer from a one year vocational program to a two-year technical program. Of the 40 institutions which did permit transfer only 9 granted full credit for the course completed in the one-year vocational program.

Among the 15 community colleges responding to the survey, 14 indicated they would permit transfer from a technical program to a college parallel program. However, only three indicated they would give full credit for course work completed in a technical program.

Responses from both surveys verified the need for the allied health articulation project.

Special Transfer Programs

A partial effort toward resolving some of the problems cited in the previous section was evident in the form of special transfer programs or agreements developed by a few North Carolina institutions.

At the same time the allied health articulation project started, a bachelor of technology (B.T.) degree was being offered by Appalachian State University and the University of North Carolina at Charlotte. These institutions accepted transfer students from specified business and engineering technology programs with minimal loss of time and credit to the students. While these two programs did not accept students from allied health programs, they held promise as a model for developing special programs in senior institutions for allied health transfer students.

A similar promise could be seen in the bilateral agreement between North Carolina Central University and Durham Technical Institute. Under terms of the agreement a limited number of graduates from technical programs were to be accepted for a baccalaureate level teacher education program. Again, allied health programs were not specifically involved in the agreement, but the agreement offered a model for better allied health articulation.

Another special transfer opportunity was offered by Mars Hill College, a private institution. The College accepted graduates of two-year allied health programs for a regular B.S. degree program. This arrangement allowed a student to regard his allied health professional courses as an academic major as he took primarily general education courses in the third and fourth years.

On the whole, the limited nature of these special transfer arrangements also spoke for the need for the allied health articulation project.

NOTES

1. Department of Community Colleges, Progress Report of the Comprehensive Community College System of North Carolina (Raleigh: State Board of Education, 1969).

2. John F. Corey and Gordon B. Pyle, "Joint Committee Approves Articulation Guidelines", Higher Education in North Carolina (Raleigh: North Carolina Board of Higher Education, 1967).

3. Transfer Guidelines: Recommendations of the Joint Committee on College Transfer Students (Chapel Hill: The University of North Carolina, 1973).

4. Joint Committee on Junior and Senior Colleges of the Association of American Colleges, American Association of Collegiate Registrars and Admissions Officers, Guidelines for Improving Articulation Between Junior and Senior Colleges (Washington: American Council on Education, 1966).

5. Higher Education in North Carolina, 1969-71 (Raleigh: North Carolina Board of Higher Education, 1972).

6. Policies of Senior Colleges and Universities Concerning Transfer Students from Two-Year Colleges in North Carolina (Raleigh: North Carolina Board of Higher Education, 1972).

4. THE ALLIED HEALTH ARTICULATION PROJECT

Problems with the transfer of credit have been dramatically alleviated in North Carolina through the statewide Joint Committee on College Transfer Students. Development and publication of transfer policies and transfer guidelines represented a major achievement in academic cooperation. But these efforts were far from enough.

Technical education remained a notable omission from these efforts at the time the allied health project was conceived. Within technical education, there was a pressing need of guidelines for the transfer of allied health credit from one program to another.

The lack of guidelines or articulation agreements stymied recruitment and inhibited job advancement in many allied health professions. This condition was noted in 1970 by the Govenor's Advisory Council on Comprehensive Health Planning in North Carolina. The Council recommended that "recruitment for health jobs and educational programs should be expanded and better coordinated. The State Board of Education and the State Board of Higher Education should examine existing curricula for training health manpower and make changes to permit job advancement of health workers according to individual interests and ability."[1]

By the late 1960's community colleges and technical institutes in North Carolina were responding to the nation's call for more health manpower. New education programs in allied health and nursing were planned and established. While hospitals were the original location for many allied health and nursing education programs, it was being recognized that they would not be the setting for education of these health workers in the future. Increasingly, formal education was expected to occur in colleges and universities. Community colleges were recognized as having a legitimate middle-level education function, and national commissions and committees were soon urging these two-year institutions to initiate programs for the preparation of the vast array of health technicians so urgently needed by the health industry.

The number of allied health programs in two-year institutions increased rapidly. They became part of a complex and haphazard mixture of educational programs already existing in hospitals and the military and in baccalaureate and graduate institutions. Identifying education pathways for professional development and advancement emerged as a major problem for allied health personnel. Transferring credit from one type of program to another was a fundamental problem in career mobility.

This, then, was the general situation confronting educators in North Carolina which led to the Allied Health Articulation Project.

The Project Proposal

In late 1970 a joint committee on allied health education, similar to the one on transfer students, was established in North Carolina by the State Board of Higher Education and the State Board of Education to advise these Boards on matters pertaining to allied health education. This joint committee, as a first priority of business, established a subcommittee on articulation with a charge to identify problems which interfere with articulation among various levels of technical education and to suggest guidelines for resolving them.

Early in 1971, the Joint Committee on Allied Health Education requested that its two sponsoring organizations, the State Board of Higher Education and the State Board of Education, submit a proposal under the Federal Health Training Improvement Act of 1970 for funding an allied health articulation study project. The project was proposed as one which would develop, demonstrate, and establish "...interrelationships among institutions which will facilitate the training, retraining, or utilization of allied health manpower" [2] under funding provisions of the Health Training Improvement Act of 1970.

This proposal, endorsed by the Joint Committee on College Transfer Students, would develop articulation guidelines for the education of health care personnel in various allied health professions.

During the first year of the project guidelines were to be developed in the four areas of physical therapy, X-Ray technology, dental hygiene, and medical laboratory sciences. During the second year guidelines were to be developed in the areas of medical records, dietetics, environmental health, and respiratory therapy. The contract was initially approved for a two-year period. It was later extended to a third year and two additional study committees were included--physician assistant and therapeutic recreation.

It was agreed that the Board of Higher Education would serve as the administrative and fiscal agent for the project but that it would be conducted under the general direction and auspices of both the State Board of Higher Education and the State Board of Education, the two agencies legally responsible for the planning and coordination of the entire spectrum of post-secondary education in North Carolina at that time.

On July 1, 1972 the administrations of the sixteen public supported senior institutions in North Carolina and the State Board of Higher Education were merged into a new administrative body, The University of North Carolina, which was governed by a Board of Governors. The administrative arm of this new system, The University of North Carolina General Administration, was the agency which actually assumed responsibility for administering the project in cooperation with the Department of Community Colleges, State Board of Education.

The Joint Committee on College Transfer Students and the Joint Committee on Allied Health Education agreed to provide advice and special assistance to the project. Throughout the course of the project the Joint Committee on College Transfer Students was kept informed of all progress. Upon completion of the first two years of the project, the Joint Committee endorsed the final report of the Articulation Project and agreed to publish in its next report the recommendations for transfer of credit which applied to the eight disciplines included in the project.

Objectives of the Project

Objectives of the project evolved from recommendations of the subcommittee on articulation which was established by the Joint Committee on Allied Health Education. The charge to the subcommittee was to identify problems which interfere with articulation between various levels of technical education and to suggest guidelines for resolving them.

This Committee recognized that many graduates of one- and two-year allied health education programs would not expect to pursue advanced work leading to a baccalaureate degree. The Committee agreed that some students would have the ability and interest for advanced study and should be encouraged to seek admission for upper divisional study in order to prepare themselves for teaching, supervision, and other advanced level positions. The Committee also noted that many students were acquiring professional education outside traditional institutions of higher education and wanted recognition and academic credit for this work. The military was providing basic education in many health areas and many military personnel, upon leaving service, wished to pursue training in civilian institutions of higher education. Also, for many health professions the initial pathway to professional recognition led through a series of education and clinical experiences outside the traditional academic institution. Many of these professionals wished to pursue advanced study in colleges and universities and were anxious to have knowledge which they may have acquired in non-traditional ways validated by colleges and universities for academic credit leading to an academic degree.

A number of events were occurring which further emphasized the need for the established system of higher education to become directly involved in resolving these problems.

Professional associations were examining pathways to professional status and many were now turning to the academic institution to provide a permanent home and the academic degree as a basic requirement for professional recognition. Examination such as college level examination programs (CLEP) began to emerge as a method to be used by colleges and universities for validating knowledge and skills acquired in non-traditional education and in on-the-job learning experience which were considered equivalent to college-level academic credit courses.

The Committee recognized several situations which prevailed at this time and required the attention of administrators in higher education.

Individual arrangements were being made between institutions of higher education for transfer of credits in selected areas of allied health education. The Committee suggested that a uniform set of guidelines for transfer of allied health credit were needed which would serve as appropriate guides for educational institutions concerned with allied health credit transfer.

It was also recognized that for some allied health programs an appropriately related specialty area of study did not exist in the senior institution and this created a problem for the transfer student from the two-year institution as well as for the senior institution to which the student wished to transfer. The Committee suggested that only a few selected institutions should be encouraged to develop an appropriate academic area of study to accomplish the career objectives of these students because of the special arrangements and curricula which would be required.

Some senior institutions had made arrangements to accommodate graduates of selected two-year allied health program but rejected others although the basic pattern of professional education was the same. The Committee suggested that these transfer models should be studied to determine if they were appropriate and applicable to other allied health disciplines.

Recognizing the difficulties encountered by the student who completed an intermediate level course of study in a two-year institution, the Committee suggested that appropriate professional allied health associations and institutions of higher education should identify options available to students who wished to pursue work in an advanced professional curriculum and to work together to resolve barriers which interfered with credit transfer.

The Committee suggested one final recommendation which it believed would help to resolve these problems. To avoid creating problems which interfered with career mobility, an unilateral approach in planning new curricula in two- and four-year institutions should be avoided when there is a direct relationship between programs in these institutions and problems of credit transfer that should be considered between these programs at that time.

From recommendations of this subcommittee of the Joint Committee on Allied Health Education the objectives of the Articulation Project first emerged. A basic assumption of the Articulation Project was that allied health professionals should have an opportunity for career mobility in order to further their education in advanced and other related professional education or in related science. This very simply implied that the student should have access to upper divisional education in a senior institution with minimal loss of time and duplication of effort in the transfer process, and that the work required in the two-year institution should be applicable towards the requirements of a baccalaureate degree.

The major goal of the project was to develop procedures which would enable an individual to transfer credit from an allied health program in one setting to some program in higher education for the purpose stated above. Transfer of credit could be between two- and four-year institutions; between two-year institutions; between programs in four-year institutions; or between a program in a non-degree granting institution and a degree granting institution. With this background, the specific objectives for the project agreed to in the contract with the Department of Health, Education, and Welfare emerged as follows:

1. Assemble available material on current requirements for admissions to and course content of the selected allied health education programs with the state.

2. Review such materials for possible integration and coordination, and for transfer of credit from one level of education to another within the state.

3. For the articulation guidelines develop policies, procedures and recommendations related to general educational requirements, technical-professional educational requirements, and practical requirements, as well as recognition of knowledge and skills gained through other formal experiences (e.g., Challenge Examinations, Equivalencies Examinations, and Proficiency Examinations).[3]

The primary objective of this project which provided for the transfer of credit from education programs in allied health education was a pioneering effort in North Carolina and the nation. The most significant objective to be achieved, however, was not stated in the project contract. It was that with the work of this project the concept of transfer would be expanded to include credit from occupational or career programs in two-year institutional programs leading to the Associate in Applied Science degree.

Organization and Methodology

The combination of the work of the Joint Committee on College Transfer Students and limited arrangements for the acceptance of credit from the AAS degree program provided the foundation for the NIH-funded project to develop guidelines for allied health programs.

Organizationally, this project was distinguished by the same broad involvement of institutions that existed in earlier efforts in North Carolina to resolve transfer of credit problems. Faculty and administrators from public and private two- and four-year technical institutes, colleges and universities and professional associations in North Carolina were involved in the project as members of the study committees.

A functional organizational chart of the project is provided in Figure III.

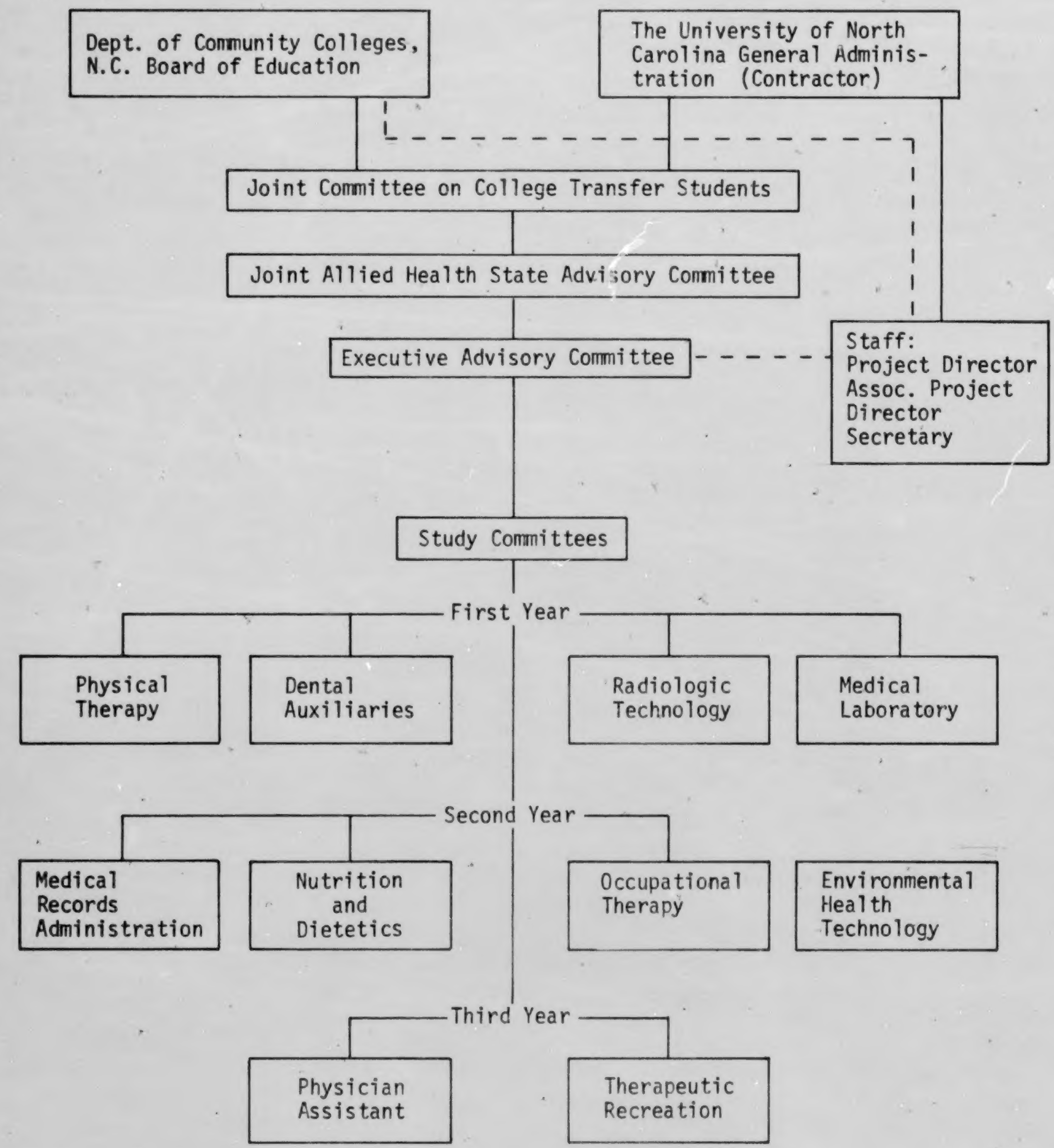
The project staff consisted of a project director, associate project director, and secretary. During the first year of the project the director, who was not reimbursed from the contract, devoted about half-time to the project, whereas the associate director worked on a full-time basis. During the second year of the project the director devoted part-time to the study and the associate director, who had left the state for other employment, continued in a consultant capacity with the project. The work of the project was guided and approved by an Executive Advisory Committee consisting of twelve members plus the project director and associate director. Members of the Committee were selected to represent two- and four-year public and private institutions and to represent areas of admissions, general education, professional education, and practicum experience.

For the first year of the project, study committees of about eight people were appointed to deal with the following four health professions: physical therapy, radiologic technology, medical laboratory technology, and the dental auxiliaries. Members of these committees were chosen to be representative of the same range of interests as those in the Executive Advisory Committee.

Following an orientation for all committees, each study committee met separately and pursued the task according to their own plan of work and agenda. The orientation meeting acquainted all of the committees with the background of articulation in the state and introduced them to the problems and questions which should be considered in order to develop guidelines. Questions were based upon issues identified by the national Joint Committee on Junior and Senior Colleges in 1966[4] and ten transfer problems identified by Willingham in 1972.[5]

Figure III

FUNCTIONAL ORGANIZATIONAL CHART
NORTH CAROLINA ALLIED HEALTH EDUCATION ARTICULATION PROJECT


Dept. of Community Colleges, N.C. Board of Education
The University of North Carolina General Administration (Contractor)
Joint Committee on College Transfer Students
Joint Allied Health State Advisory Committee
Executive Advisory Committee
Staff: Project Director Assoc. Project Director Secretary
Study Committees
First Year
Physical Therapy
Dental Auxiliaries
Radiologic Technology
Medical Laboratory
Second Year
Medical Records Administration
Nutrition and Dietetics
Occupational Therapy
Environmental Health Technology
Third Year
Physician Assistant
Therapeutic Recreation

The chief link among the four committees was provided by the project director and associate director. One and usually both attended all meetings of the committees and in the process kept each group informed of the work of other committees. In addition, the associate director served as the secretary for each study committee and provided summaries of all the study committee meetings. These summaries were distributed to members of the Executive Advisory Committee and to the chairman of the other study committees. The same procedure was followed during the second and third years of the project with the exception that the associate director was unable to attend any of the study committee meetings.

This arrangement encouraged a process of communication among members of the committees which was extremely helpful in resolving many of the issues confronting the committees in developing guidelines for credit transfer. Faculty in the same allied health sciences often were not well-informed of other's programs. Committees also made a point of meeting at different institutions throughout the state in order to become familiar with the institutions' resources. This, too, was helpful in assisting committee members to know and to appreciate the allied health programs offered at various levels of higher education in North Carolina.

The initial meeting of the study and advisory committees occurred six months after the beginning date of the project. This delay was attributed to the change in higher education which occurred in North Carolina and, as a result of which, the Board of Higher Education ceased to exist and the University of North Carolina General Administration assumed responsibility for conducting the project. Although the project was six months behind schedule, the study and advisory committees agreed to complete the work on time, even though this would require that they consolidate an entire year's activity into six months. At this time each committee established a calendar which they were able to complete and thus bring the project back on schedule by the end of the first year.

Initially it was proposed to develop a set of transfer guidelines for each of the allied health disciplines involved in the project. As the committees progressed, however, it soon became apparent that there were many problems which were common to all disciplines and that a single set of guidelines which would apply to all disciplines would be a more effective instrument. It was also apparent that the complexity of the transfer problem was different for each of the allied health disciplines included in the study and that some of the professions had not given extensive consideration to problems of credit transfer from an intermediate level to a more advanced level within the same discipline. It was learned that this situation could have an impact upon the work of the committes in that accreditation might be affected by decisions for credit transfer suggested by the study committees. In spite of these obstacles, each committee produced a set of transfer guidelines which are useful and which reflect that status of development of allied health education at the same time of the project.

In May of the first year, the Executive Advisory Committee was confronted with each committee's response to a variety of questions about the transfer of credit from allied health programs. At a meeting of the Advisory Committee and chairmen of the study committees the varying answers to each question were discussed and one was chosen to be included in the transfer guidelines. The process, then, was one of extensive discussion of the issues prior to determination of the exact wording of each guideline. Often recommendations from the study committees were not in agreement and in the joint meeting of the Advisory Committee and Study Committee chairmen the reasoning and judgment behind each recommendation under consideration were considered. Not only were Study and Advisory Committee points of view considered but the committees had to consider recommendations of the Joint Committee on College Transfer Students in reaching an appropriate position relative to the guidelines proposed for allied health education.

The method by which Executive Advisory Committee and the committee chairmen reached agreement on individual recommendations was interesting. The associate director organized recommendations on a specific issue according to topic and then presented them to the Committee in a table which revealed the range of differences among the recommendations. The committee was able to identify quickly the emphasis of each recommendation, to note the differences between them and discuss the point of view behind each recommendation. From this discussion, the Committees were usually able to resolve the different points of view to agree on a single recommendation which was acceptable to all participants. When agreement could not be reached, it was understood that the Executive Advisory Committee would select the recommendation that seemed most appropriate for higher education in North Carolina. It should be noted that there were very few instances when the Advisory Committee was forced to reach a decision independently of the study committee chairmen. The soundness of the guidelines developed in the project is supported by the fact that many of them are also considered appropriate for other technical-professional disciplines other than allied health.

After the guidelines were approved by the Executive Advisory Committee, they were presented to a statewide meeting of approximately 90 persons in order to obtain further reaction and discussion. Participants in this meeting were chosen to represent as many two- and four-year institutions as possible, to present the public and private sectors, to represent a variety of academic programs and administrative viewpoints, and to represent clinical as well as academic settings.

In advance of this meeting, participants were divided into five groups which were designed to be as heterogeneous as possible in order to obtain a broad range of criticism. The groups were charged with identifying and listing as many objections as possible to each guideline. At the end of the day, objections were complied and then returned to the groups the next day. The task for the second day was to overcome the objections.

Overall, the guidelines were the product of consensus by the study committees and the advisory committee, followed by extensive, critical examination, followed by modification at the statewide meeting. The modified version was again submitted for approval by the Advisory Committee. During the second year of the project, four additional study committees were organized to develop transfer guidelines for medical records administration, nutrition and dietetics, respiratory therapy, and environmental health technology. These committees, in addition to developing transfer guidelines for their respective disciplines, were able to benefit from the guidelines developed by first-year study committees. In April 1974 recommendations of all eight study committees were presented to a statewide meeting. Recommendations from this meeting were incorporated into the final draft of the project report.

Study committees were established for two additional disciplines in the third year although a statewide meeting to consider the guidelines was not conducted. It should be pointed out that second- and third-year committees did not have the strenuous task which confronted first-year committees because they were able to build on the recommendations developed initially during the first year of the project. In addition to gaining an understanding of these recommendations, the second- and third-year subcommittees had to acquire the ability to communicate with each other, to exchange views about transfer of credit problems, and to acquire information and an understanding of the programs offered by different institutions before they could come to grips with transfer problems important to their specific disciplines and to suggest guidelines for credit transfer.

In keeping with the pattern of developing transfer guidelines in North Carolina, the allied health guidelines were submitted to the Joint Committee on College Transfer Students for endorsement after the Executive Advisory Committee had approved the final report. The Joint Committee on College Transfer Students endorsed the guidelines and requested that the recommendations and specific suggestions for credit transfer be included in its next publication on transfer guidelines in North Carolina. The project report, however, was printed as an independent document and given wide distribution in North Carolina. The uniqueness of guidelines developed in the project is that they are the first statewide effort to develop a systematic set of recommendations for transfer of credit in the allied health field.

Background Data

Data on the status of transfer of occupational or vocational college credits throughout the United States, as well as in North Carolina, accessible to the project were rather limited. Reference has been made in Chapter 3 to arrangements by other states and by institutions in North Carolina for transfer of technical and vocational health credits. These data were obtained from several survey questionnaires prepared by the study directors. Information acquired was summarized and presented to the various study committees as background data for their work. The committees also had access to bilateral institutional agreements developed for specific allied health disciplines between educational institutions within and outside of North Carolina.

In summary, at the time the project began, arrangements for transfer of allied health credits between two- and four-year institutions were largely a series of bilateral arrangements between individual two- and four-year institutions for selected allied health programs.

Financial Arrangements

This study was financed by a contract with the Division of Associated Health Professions, Bureau of Health Manpower, Health Resources Administration, U.S. Department of Health, Education, and Welfare.

Faculty and administrators employed by public supported educational institutions in North Carolina who served on the various study and advisory committees, or who provided consultation to the study, were reimbursed only for expenses. They received no additional compensation for their contributions to the study. The Associate Director was employed full-time for eight months before he left to accept employment outside the state. He has continued as a consultant to the project and has received a consultant fee and reimbursement for expenses.

A few consultants from outside North Carolina were used by study committees and were reimbursed for expenses and given a consultant fee.

Communication was an important element in the success of the study, and funds were necessary to support the frequent face-to-face meetings of the study committees where members could discuss face-to-face issues and problems related to transfer of credit. Finding solutions to statewide problems required this type of interaction, and the ample funds provided North Carolina by the Division of Associated Health Professions made this possible. These funds provided an opportunity for people who, perhaps, met each other on other occasions at professional meetings to interact in ways which were otherwise not available to them. By having this opportunity to interact with each other as often as they felt necessary and in various academic settings throughout the state, they were able to acquire information and understanding which was considered essential to the ultimate sucess of the project.

Conclusion

The methodology of the project was a key to its success in that it provided an opportunity for broad involvement of faculty, administrators, and professionals in each stage. This chapter has attempted to describe this process in some detail for others who wish to employ similar strategies in other settings. This process required the enthusiastic support of many faculty and administrators who participated in the project and who found their involvement in it to be an invaluable learning experience. The process will further require the support of these participants in the implementation of the recommendations by colleges and universities.

NOTES

1. Health Priorities for North Carolina, recommended by the Governor's Advisory Council on Comprehensive Health Planning, Raleigh: Office of Comprehensive Health Planning, Division of State Planning, North Carolina Department of Administration, November, 1970, pp. 4-5.

2. Unpublished notes from Subcommittee on Articulation, Joint Committee on Allied Health Education.

3. Contract for the Development and Publication of Articulation Guidelines for Use in Programs of Training and Education in Allied Health Professions, Bureau of Health Manpower Education, National Institutes of Health, Department of Health, Education, and Welfare, Contract No. NIE 72-4358, pp. 3-4.

4. Joint Committee on Junior and Senior Colleges of the Association of American Colleges, American Association of Collegiate Registrars and Admission Offices, Guidelines for Improving Articulation Between Junior and Senior Colleges. (Washington: American Council on Education, 1966.)

5. Warren W. Willingham, The No. 2 Access Problem: Transfer to the Upper Division. (Washington: American Association for Higher Education, 1972.)

5. ALLIED HEALTH EDUCATION

Expansion of allied health education in the past two decades has been phenomenal and is attributed to demands for more health services and to new technology in health sciences. These two factors have resulted in roles which can be assumed by health professionals other than physicians, dentists, nurses, pharmacists, and other traditional health specialists. Such roles have focused attention on education of allied health personnel.

Since World War II there has been rapid growth in allied health education programs throughout higher education. New types of health manpower have evolved and established disciplines, such as physical therapy, medical record administration, occupational therapy, medical laboratory, dietetics, and environmental health, to name a few. In some cases, subspecialists have emerged within a discipline. The major trends then have been an increase in the number of educational programs for each allied health discipline and an increase in the programs preparing new types of health professionals.

Definition of Allied Health

Allied health is not easily defined. The scope of this field if defined broadly would include all professional, technical, and supportive workers in patient care, public health, health research, and environmental health programs. Also, education for allied health personnel if broadly interpreted would range from a few weeks of education, primarily as on-the-job training for orderlies and aides, to advanced graduate education leading to the doctoral degree.

The Allied Health Articulation Project and this report are restricted to selected allied health disciplines.[1] All of the selected disciplines are ones for which preparation is likely to be acquired in two- and four-year institutions of higher education. Graduate allied health education is beyond the purview of this report. However, the conclusions and recommendations of this report should have application to allied health education as it is more broadly defined.

Development of Allied Health

Many allied health disciplines began initially as on-the-job training programs in health care facilities, and professional status was obtained outside formal education programs in institutions of higher education.

Individuals trained in this fashion joined together and formed professional associations which in turn created the standards for admission to membership in the associations. Eventually, new professional associations together with the American Medical Association established standards for accrediting the programs of study which were often located in a clinical facility. Even today, accreditation of some allied health programs is limited to only that portion of the curriculum offered in a clinical facility even though the basic didactic education and degree may be offered in an institution of higher education.

Many allied health education programs are still found in educationally isolated hospitals and laboratory settings that have extremely small enrollments and facilities, little academic structure and minimal program review procedures. They also lack long-term continunity, stability, and direction for the educational program which is characteristic of established institutions of higher education.

Greater demands for health manpower, limitations of clinical based programs, and increasing concern with the cost of these programs have led to a realization that this is not the most suitable setting for these programs. It is now generally agreed that basic progressional education for the vast majority of allied health technicians and technologists which America's health care systems require now and in the decades ahead should occur in established institutions of higher education.

It was logical, therefore, for newly developing two-year educational institutions of higher education to accept responsibility from hospitals and clinics for many of these programs and to join in the task of preparing health manpower with four-year colleges and universities, which were also expanding their roles rapidly in this field.

Allied health education is in a transitional state: It is an expanding professional field; institutions of higher education and health service facilities are assuming new roles in allied health education; and professional associations are reexamining professional curricula, standards for accreditations, licensure and certification, and mobility within and between professions in an effort to cast allied health education into molds which will best serve the decades ahead. Career mobility within this field and the attendant problem of transfer of credit within and between educational institutions are affected by the shifting sands of this profession.

Mobility and Articulation

Expansion of allied health programs in higher education has created many new roles for allied health professionals. Today there are opportunities for career mobility in higher education as well as in health care delivery.

Education beyond the basic level of education or training is essential to those professionals who must assume leadership roles as faculty, administrators, and researchers. For some allied health personnel, this advanced level of education means work in graduate programs. For others, however, advanced education means transferring from a two-year institutional, professional allied health program of study or in some instances from a certificate program housed in a non-academic clinical facility to an upper divisional program in a four-year institution of higher education. The step upward from programs in two-year institutions has been difficult because these programs have been considered terminal and not transferable to a senior college or university. Often the student transferring to a senior institution has been given no recognition for a program completed in the two-year institution and has been required to apply for admission as a freshman.

Education beyond the basic level of education or training is also essential to those professionals who wish to assume new responsibilities in the delivery of health care. Because the primary objective of their basic level of education was to prepare them for specific tasks in health care, they encounter the same problems in securing advanced education as those seeking career mobility in higher education.

In both cases, the lack of time in the basic level programs does not permit the inclusion of the general education widely regarded as a foundation to upper division work in a senior institution. Additional general education courses are required by the transfer institution in order for the student to qualify for the baccalaureate degree. These additional courses mean additional time and hence frustration for the mobility-minded allied health professional.

Allied health professionals seeking advanced education also learn that many courses offered in two-year institutions are not acceptable for transfer because the receiving institution has no "parallel" courses. Even if there are parallel areas of study in both two-year and four-year institutions, as in physical therapy, medical laboratory sciences, dietetics, and environmental health, credit may not be transferred because the profession has given little attention to the relationship between professional courses of study and the practicum offered at each level. The position is often taken by the senior institution that there are no comparable and/or acceptable courses in the lower division curriculm which would transfer as equivalent to a specific course in the baccalaureate curriculum. To overcome this difficulty, interested faculties are experimenting with designing professional curricula at both academic levels into modular units and comparing modules for transfer purposes as a substitute for full courses of study. Credit by examination to allow credit where course areas may not be clearly identified for equivalency credit is also encouraged.

Studies of the transfer of credit between two- and four-year institutions up to the present time have been directed primarily to the college parallel curriculum. Little or no attention has been given to transfer of credits earned in a technical professional allied health education program. The college parallel curriculum, which may also be a pre-professional health education program of study, usually transfers with little or no loss of credit. The technical program of study in a two-year institution usually leads to an Associate in Applied Science degree and much less transferable credit.

Patterns of education at senior institutions often fail to accommodate the unique problems which confront the transfer student whose initial introduction to higher education is in special and technical allied health education during the first two years of post-high school study. If graduates of these programs are to have opportunities to move upward through the system of higher education, as recommended in the Carnegie Comission studies of higher education, traditional patterns of education must be altered and allow mobility without imposing undue loss of time and expense upon the student and without compromising standards of the receiving institution.

Principles concerning academic degrees suggested in the Carnegie Comission-sponsored report, Academic Degree Structures,[2] may help to resolve problems if accepted by institutions of higher education:

A. Each degree should mark a sucessful completion of one stage of academic degree process without implication or prejudgment as to the student's capacity to embark on following stages (i.e., the student who completes technical education in a two-year institution and wishes to pursue an advanced degree).

B. Degree structures should be so interrelated that the maximum opportunity exists for redirection as the student's motivation, interest, and intellectual achievements permit.

C. Various components of educational experiences may be arranged in a variety of sequences. (To be specific, it is not desirable to always confine general liberal arts education to the first two years and specialized subject matter to the last two years of undergraduate study. In many instances, it is better to allow the student who is preoccupied with a given line of study to follow this line vigorously in his first exposure to post-secondary education as long as his program will be balanced out before he finishes.)

Accreditation and Regulatory Practices

Accreditation standards and regulations governing admission to practice a health profession were established to protect the student, public, and profession. Until 1949 any professional organization or special interest group was relatively free to institute a program of accreditation if it wished. Each group was autonomous, free to establish its own standards of training, recruitment, and performance and generally free of any control.

Using medicine as the prototype many new allied health occupations seeking a privileged professional ststus modeled their aspirations after medicine. Thus, today among the health professions, "the majority sponsor both accreditation and certification programs as two closely related aspects of one standard-setting process."[3]

While the purpose of these standards has been directed to quality education and performance, they have also tended to seal professional groups off from critical inquiry. It is believed that undue restrictions have been placed upon the professions which in turn limit their effectiveness in the late 20th century.

"Initiated by different groups, at different points in time, in response to diverse social and economic conditions, the processes of accreditation, certification, and licensure were originally conceived as independent procedures geared to separate, distinct roles and objectives. Today, in the hands of a wide variety of health professions, accreditations, certifications, and licensure are bound together by a complex array of interlocking relationships, which through time have forged all three processes into one comprehensive health manpower credentialing system.

Accompanying this structural evolution was a revolution in expectations. Once conceived with limited and somewhat prosaic objectives in mind, the companion processes of accreditation, certification, and licensure are now collectively called upon by society to assume the weighted responsibility of identifying competent personnel to staff its health care systems. In the course of this metamorphosis, the pattern of critical procedures and mechanics of accreditation, certification, and licensure have changed little since their inception in the 19th and early 20th centuries. However, the social milieu in which they must operate, the purposes they are called upon to serve, and the issues they are expected to address have undergone dramatic transformation".[4]

Some of the constraints imposed upon professional education by accreditation and regulatory health agencies also influence transfer of credit within and between allied health disciplines.

Some have suggested that rigid control of the health professions by health professionals has created conflict of interest situations. Professional associations are aware of these concerns and are addressing themselves to these problems. Some of the troublesome situations encountered in the study of credit transfer are expected to become academic in the years ahead. At the present time, however, there are problems which are directly related to the failures of the professional associations, as well as of educational institutions, to recognize that education and regulation of health professionals must be identified with the social milieu in which they must operate if these institutions are to survive.

Pathways to Professional Status

The scope of the allied health field, the range of education for members of the profession, the evolution and location of professional education for individual disciplines, and the expansion and proliferation of new types and levels of allied health personnel have created many career entry points to the allied health professions. Achievement of upper level professional status in some disciplines has often routed the individual through several levels of performance consisting of a combination of semi-formal, on-the-job learning experiences and examinations conducted by the professional association. These basic pathways through clinical facilites often led to a professional certificate and skirted institutions of higher education. Others were directed into programs of professional education in institutions of higher education which offered academic certificates for less than two years of work, and associate, baccalaureate, and graduate degrees.

Most professions are now shifting the primary base of professional education programs from clinical facilities to two-year institutions of higher education and to an associate degree which is becoming the minimal education standard for professional recognition by the associations. This transition should help stabilize the preparation routes and entry points to careers in allied health. This development should also identify common academic subjects for allied health disciplines and allow more flexibility in transferring credit when students wish to change a career direction or to move upward to a higher level of professional competency and to a baccalaureate degree.

The location of professional allied health programs, formerly found in clinical institutions, in two-year colleges, and the acceptance by senior institutions of objectives for advanced education and career mobility for graduates of these programs will help in the future to resolve the problems noted here which interfere with transfer of credit.

Classification of Education Programs

Allied health education programs may be classified in a variety of ways for purposes of examining issues related to credit transfer. One option is to list programs according to the level of manpower produced: assistant, technician, and technologist. Another is to group programs by type of manpower: medical, dental, community, administrative, and so on. Still another option is to group programs according to the type of curriculum and academic degree or certificate awarded: non-academic curriculum and professional certificate awarded; pre-professional curriculum and associate degree awarded (optional); basic professional curriculum and academic certificate or associate degree awarded; and professional curriculum and baccalaureate degree awarded. Although many pathways have evolved which lead to professional status, they are giving way to established programs in institutions of higher education and three basic patterns which are expected to prevail:

A. Pre-Professional Curriculum--associate degree (optional).

B. Basic Professional Curriculum--academic certificate or associate degree.

C. Intermediate Professional Curriculum--academic certificate or associate degree.

Each of these curriculum patterns should link with an upper division program leading to a baccalaureate degree which in turn should articulate with graduate education. Because each curriculum pattern should permit transfer of credit to programs in senior institutions, each may be thought of as a transfer route or model (see Figures IV, V, VI).

Pre-Professional Curriculum: Transfer Model A

This curriculum provides for completion of general education requirements and prerequisites of the professional education curriculum which is offered as an upper divisional program of study leading to a baccalaureate degree. This is the usual route of entry to such professions as physical therapy, medical technology, and occupational therapy which are usually offered as baccalaureate degree programs. Full credit is usually granted by the senior institution for general education and prerequisite courses completed in this pre-professional curriculum. The curriculum may culminate in the award of an associate degree or with two full years of academic credit depending upon individual circumstances. This curriculum pattern is illustrated in Figure IV.

Figure IV. PRE-PROFESSIONAL CURRICULUM: TRANSFER MODEL A

ACADEMIC YEARS	ACADEMIC EMPHASES	ACADEMIC AWARDS
1-2	Pre-Professional Curriculum General Education Courses Professional Curriculum Prerequisites	Associate Degree or Equivalent of First 2 Years of College
3-4	Professional Curriculum* Professional Courses Practicum General Education Courses Required for this Degree	Baccalaureate Degree

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*Curriculum examples:

A) Physical Therapy
B) Medical Record Administration
C) Medical Technology
D) Environmental Health
E) Dietetics

Basic Professional Curriculum: Transfer Model A

Many allied health professional curriculums are offered by two-year post-secondary institutions of higher education which grant an associate degree. Upon completion of an appropriate basic allied health curriculum, the student is qualified for admission to a licensure, certification, or a registry examination leading to full professional status in the discipline. Disciplines involved in this curriculum include dental hygiene, radiologic technology, and respiratory therapy. These programs are usually offered as two-year associate degree programs.

Advanced study beyond this basic level of preparation is usually for the purpose of acquiring expanded functions: additional competency in a related area such as in teaching and administration; more extensive preparation in a basic science or in the professional-clinical area; or preparation in a related health specialty. Transferring credit earned in the basic professional curriculum requires the senior institution to approve an educational pattern for advanced study leading to the baccalaureate degree which may represent a departure from its traditional mode of operation. Minimal general education is completed in the first two years of associate degree work in a two-year institution. The curriculum emphasis at this level is on the professional curriculum. Therefore, the transfer student seeking a baccalaureate degree must complete additional general education courses required by the transfer institution. The transfer institution will be expected to accept the professional curriculum completed in the two-year institution as a major field of study. This curriculum pattern is often referred to as the inverted curriculum. It is illustrated in Figure V.

Figure V. BASIC PROFESSIONAL CURRICULUM: TRANSFER B

ACADEMIC YEARS	ACADEMIC EMPHASES	ACADEMIC AWARDS
1-2*	Basic Professional Curriculum**	Associate Certificate or Associate Degree
	General Education Professional Curriculum Practicum	
3-4	Related Studies	Baccalaureate Degree
	General Education Course	
	Required for the Degree and Emphasis in One or More of the Following Areas:	
	Teacher Preparation Management and Administration Advanced Professional and Clinical Courses Advanced Related Sciences	

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*Usually a two-year Institution

**Curriculum examples:

A) Dental Hygiene
B) Respiratory Therapy
C) Radiologic Technology
D) Dental Assistant

Intermediate Professional Curriculum: Transfer Model C

The third transfer model is similar to the second model in that the program is usually completed in a post-secondary institution and leads to an associate degree. It differs from Model B in that the course of study completed leads to an intermediate level of professional certification within the discipline, usually an assistant or technician level. Advanced professional status is obtained by transferring to a senior institution which offers the advanced curriculum and awards a baccalaureate degree. The usual objective of advanced education is to obtain advanced professional qualification within the given allied health profession. It should be noted that the traditional route for entry to the baccalaureate program, which awards advanced professional status, is usually by means of a pre-professional curriculum rather than through an intermediate professional associate degree program. Examples of the intermediate professional curriculum completed in a two-year institution and the parent professional discipline offered by senior institutions are as follows: medical laboratory technician--medical technologist; physical therapy assistant--physical therapist; medical record technician-- medical record administrator; environmental health technician--environmental health technologist; dietetic technician--dietition and nutritionist.

Transfer of credit between these levels of education may be complicated because the relationship between segments of the professional course of study for each level (associate degree and baccalaureate degree) may not have been delineated by the professional association. Often portions of the intermediate level course are also included in the upper division professional curriculum and there is not a comparable course at the lower level which would transfer to full credit to the upper divisional level. To avoid the credit transfer problem this situation poses, some institutions are experimenting with a modular type of curriculum which clearly identifies units in each course. The identification of such units or modules will facilitate identification of knowledge or competencies aquired. The intermediate course of study also includes a minimal number of general education credits which do not satisfy baccalaureate degree requirements, and additional general education courses are usually required by the transfer institution. Because of these problems, as well as the educational option selected by the transfer student for advanced study, more than two additional years are usually required in order to complete the professional curriculum and baccalaureate degree requirements. Clarification of the relationship between lower level and advanced level professional courses and experimentation with the modular curriculum may minimize some of the credit transfer problems encountered. This curriculum pattern is illustrated in Figure VI.

Figure VI. INTERMEDIATE PROFESSIONAL CURRICULUM: TRANSFER MODEL C

ACADEMIC YEARS	ACADEMIC EMPHASES	ACADEMIC AWARDS
1-2*	Intermediate Professional Curriculum** General Education Professional Curriculum Practicum	Academic Certificate or Associate Degree
3-4	Advanced Professional Curriculum** Advanced Professional Curriculum Practicum General Education Courses Required for the Degree	Baccalaureate Degree

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*Usually a two-year institution

**Curriculum examples:

Lower Division (Associate Degree)	Upper Division (Baccalaureate Degree)
Physical Therapy Assistant	Physical Therapist
Medical Record Technician	Medical Record Administrator
Medical Laboratory Technician	Medical Technologist
Dietetic Technician	Dietitian
Environmental Health Technician	Environmental Health Technologist
Environmental Health Engineering	Engineering Technology

NOTE: Less than two-year programs such as certified laboratory assistant or medical secretary may transfer to appropriate associate or baccalaureate degree programs.

Allied health courses of study of less than two years duration and leading to an academic certificate may be considerate for transfer to appropriate associate or baccalaureate degree programs. These would include programs such as dental assistant, certified laboratory assistant, and medical transcriptionist or secretary. If transfer is to occur from these programs, the amount of credit allowed may be minimal. This particular situation was considered by study committees in the articulation project but was not given much emphasis because it is utilized only occasionally.

The relationship of these three transfer models to the various allied health disciplines considered in this project are illustrated in Figure VII.

Figure VII. SELECTED ALLIED HEALTH DISCIPLINES* AND TRANSFER MODELS

Two-Year Associate Degree Program	To	Senior Institution Baccalaureate Degree Program
Pre-Professional Curriculum (Two-Years or Associate Degree)		
1. Pre_Professional Curriculum		1. Dietetic and Nutrition 2. Environmental Health 3. Medical Record Administration 4. Medical Technology 5. Physical Therapy
Intermediate Professional Curriculum (Associate Degree)		
1. Dietetic Technology — Nutritional Care — Food Service Management		1. Dietetics
2. Culinary Science		1. Dietetics
3. Hotel and Restaurant Management		1. Dietetics
4. Environmental Science Occupational Health and Safety Environmental Engineering Technology		1. Environmental Health 2. Industrial Engineering Technology
5. Engineering Technology		1. Engineering Technology 2. Education
6. Medical Laboratory Technician		1. Medical Technologist
7. Medical Record Technician		1. Medical Record Administrator
8. Physical Therapy Assistant		1. Physical Therapy
Basic Professional Curriculum (Associate Degree)		
1. Dental Hygiene		1. Dental Hygiene 2. Teacher Education 3. Administration
2. Radiologic Technology		1. Radiologic Technology 2. Teacher Education/Administration 3. Nuclear Medical Technology 4. Radiation Therapy
3. Respiratory Therapy		1. Teacher Education 2. Business Adminiatration

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* Includes only allied health disciplines in this study
Graduate level and one-year academic certificate programs not included here.

Academic Credit

The heart of the articulation problem may be the transfer of academic credit.

Credit for completed academic work may or may not be recognized and accepted by a senior institution.

All course work completed in a pre-professional curriculum (Transfer Model A) should be acceptable to a senior institution because this type of curriculum is designed by two-year institutions to be transfer oriented.

Course work completed in a basic professional curriculum (Transfer Model B) or an intermediate professional curriculum (Transfer Model C) is presently acceptable for transfer credit only in part. This problem is addressed in the recommendations presented in Chapter 8. It is a problem which is complicated by the range of credit offered in the various allied health curriculums.

Basic and intermediate level allied health courses of study include both general education and professional courses as illustrated in Figure 8.

A minimum of 18 quarter hours of general education is required which includes courses in English and communication, social studies and humanities, natural science and mathematics. The number of general education credits earned may be substantially higher because additional general education courses may be required and included in the major or professional curriculum. All general education courses should transfer to the senior institution which may require additional general education courses to satisfy baccalaureate degree requirements.

Figure VIII.

APPROXIMATE QUARTER HOUR CREDITS EARNED IN SELECTED ALLIED HEALTH CURRICULUMS IN TWO-YEAR INSTITUTIONS OF HIGHER EDUCATION IN NORTH CAROLINA

Course of Study	English and Communication	Social Studies and Humanities	Natural Science and Mathematics	Health and Physical Education	Major Field	Other	Total
TWO-YEAR PROGRAMS							
Dental Hygiene	12	6-15	13-28	2-5	64-80	4-6	109-126
Dental Laboratory Technology	12		13		84	6	115
Culinary Science	12	6	5		92	2	117
Food Processing Technology	15	4	3		79	9	110
Dietetic Technician-Food Service Management	12	3-9	6		75-79		106-112
Engineering Technology	9	6	30		48	3	96
Environmental Science	12	6	32		53	9	112
Environmental Engineering Technology	6	6	17		51		80
Medical Laboratory Technican	12	21	15		52	8	108
Medical Records Technician	12	21	15		52	8	108
Occupational Safety and Health	9	6	30		48	3	96
Physical Therapy Assistant	12	20	10		58	6	106
Pre-Professional (Engineering)	9	19	39-43	3		22-27	92-101
Pre-Professional (Physical Therapy)	9	19	39-43	3		22-26	96
Radiologic Technology	6-12	4-6	8-26	2	101-32	2-7	145-158
Respiratory Therapy Technology	12		42		65	7	126
ONE-YEAR PROGRAMS							
Dental Assistant	6	3	4		57		70
Culinary Science	9		5		52		66
Medical Laboratory Assistant	6		7		60		73
Respiratory Therapy	6		12		46		64

The amount of professional course credit accepted for transfer to the senior institution will be influenced by the objective for advanced study. If credit has been earned in a basic professional associate degree curriculum, there may be no comparable parallel curriculum in the senior institution with which this curriculum can be equated. The purpose for advanced study, as noted previously, would be to acquire competency in a related field such as in education and administration. The transfer institution is requested to grant full credit for the major or professional curriculum which has been completed in the two-year institution. Some institutions are reluctant to do this.

The student who has completed an intermediate level professional curriculum would be seeking advanced study leading to expanded functions and a higher level of competency in the same professional discipline. The amount of credit allowed for professional courses, including practicum work, may be limited because the relationship between intermediate and upper divisional courses is not clear. Comparable professional courses of study are generally not found in the lower and upper divisional programs although each may require comparable knowledge and skills. Where this situation prevails credit may be allowed by means of examinations and/or breaking courses of study into modular units for comparative and transfer purposes. Transfer guidelines developed in this study apply to these problems.

In Chapter 7, specific problems and recommended guidelines related to the transfer to credit are discussed. These recommendations were developed by the study committees and have been used by educational institutions in North Carolina for the purpose of developing inter-institutional agreements for transfer of allied health credit.

Allied health disciplines included in the articulation project differ in a number of ways. These differences create special problems in transferring credit between educational institutions. In Chapter 6 the evolutionary status of each allied health discipline is discussed briefly and some problems are identified which have an impact upon the transfer of credit.

NOTES

1. Dental auxiliaries, medical laboratory specialists, physical therapists, radiologic technologists, medical record specialists, environmental health specialists, dietitions and nutritionists, respiratory therapists, physician assistants, and therapeutic recreation specialists.

2. Stephen H. Spurr, Academic Degree Structures: Innovative Approaches (New York: McGraw-Hill Book Company, 1970) pp 26-27.

3. National Commission on Accrediting, Study of Accreditation of Selected Health Education Programs, Part II--Staff Working Papers (1972) p I-4.

4. Ibid., p I-1.

6. CHARACTERISTICS OF SELECTED ALLIED HEALTH DISCIPLINES

Allied health disciplines included in the articulation project differed in many respects, and these differences were reflected in the guidelines developed for transfer of credit. Many of these differences have been reported in Chapter 5 and were the basis for recommending the three transfer models-- preprofessional, basic professional, and intermediate professional curricula.

Some of the differences reported previously are related to the level of academic preparation required to attain full professional status, to the presence of intermediate levels of professional preparation, and to the option of acquiring professional preparation outside formal institutions of higher education. Some professional allied health education curricula have long been established in the college or university setting whereas others have only recently moved from a clinical base to the post-secondary institution of higher education.

For some disciplines, the long-standing pathway to professional preparation has been established in an academic institution. Recently, in some of these disciplines, intermediate or technical levels of preparation have been created, although the relationship of these new levels of professional preparation to career mobility within the parent discipline is less than clear.

For other allied health disciplines the pathway to professional recognition has been outside the college or university setting and has consisted of a series of on-the-job learning experiences coupled with a sequence of examinations which led to successively higher levels of professional qualification and recognition. Many of these disciplines are now establishing the professional curriculum in an institution of higher education and requiring completion of an academic degree, usually an associate degree.

Professional associations are beginning to examine the relationship of intermediate level education to advanced professional preparation for career mobility.

Allied health disciplines included in the project were selected to reflect the broadest range of differences represented in the allied health disciplines. A brief description of the professional status of each of the disciplines at the time the project was launched is included in this chapter. These descriptions are expected to help the reader appreciate problems associated with each discipline and their importance to transfer guidelines. These statements are not intended to be comprehensive, but rather to present a brief thumbnail sketch of various allied health disciplines.

Dietetics and Nutrition

Dietetics as an organized profession dates from the founding of the American Dietetic Association during World War I. From the beginning, the members of the profession were involved in diverse activities, both in civilian and government services: therapeutic dietitians, specialists in nutritional science in hospitals; administrative dietitians and managers of food services in hospitals as well as in educational institutions, and business and industry; and directors, educators, and consultants for nutrition clinics and community nutrition services. Thus, "the dietitian is a 'translator' of the science of nutrition into the skill of furnishing optimal nourishment to people. The word 'translator' is used in its familiar context of translating ideas into action. This concept starts with the same beginning (the science of nutrition) and arrives at the same end point (the optimal nourishment of people) no matter what the particular role of the dietitian or the purpose of his employing institution may be."[1]

Since optimal nourishment is fundamental to the growth and development of a human being, to the continuing maintenance of health and well-being and to the recovery from illness and disability, dietetics is a health science.

The point to be made is that the ideas to be translated are the same for every dietitian--they are the knowledge of nutrition science. Beyond this, the knowledge and skills used by the dietitian in the art of translation are unique to the specific role which he assumes. The differentiation of dietitians is not in their basic scientific knowledge but in their subsidiary knowledge and skills required for a specific function of translation.

Because dietetics is a health science, dietitians must be considered to be health professionals. Thus, their education needs to be similar to that of health professionals generically. This declaration demands that the education of a specific health professional be built around a unifying principle. Only with the consistent adherence to such a unifying principle can the relevant portions of scientific disciplines be chosen and coordinated. Only with adherence to a unifying principle can there be concurrent, relevant learning of both knowledge and skill. Only with a unifying principle can there be educational efficiency and the elimination of duplication.

Career Options

The usual route of preparation for a career in dietetics at the undergraduate level is through a preprofessional curriculum to an approved baccalaureate program in dietetics or through an approved baccalaureate coordinated program in dietetics. Several career options are available in dietetics and nutrition at the associate degree level. These include the following. dietetic technician and food service managers in hospitals and other health care facilities; school and college food service managers; hotel-restaurant manager; and culinary specialists. Students completing one of these programs may elect to transfer to a senior institution and complete work leading to a baccalaureate degree with a major in dietetics with a curriculum emphasis in management, clinical nutritution, community nutrition, or general dietetics. A general career model for dietetics is outlined in Figure IX.

If the profession of dietetics is to recruit enough students, the baccalaureate program must be capable of accepting transfer students from a variety of institutions. The preparation of the dietetic technician and assistant, therefore, must be carefully formulated so as to provide for student transferability among two-year and four-year institutions.

As noted above, the traditional route to professional status in this field is directly to the baccalaureate level program and to a master's degree program in food nutrition or related field or to an American Dietetic Association approved internship or traineeship in dietetics. Of more recent origin are the dietetic technician associate degree program, dietetic assistant, and food service work classifications. Figure IX suggests a pathway for the student who has entered one of the lower-level positions to a higher-level position in this field. However, the relationship between these levels for transfer of academic credit is not clear. The relationship of the recently established dietetic technician position to the baccalaureate level programs is being considered for credit transfer purposes by both the professional association and by two- and four-year academic institutions which offer these programs. Until these relationships have been identified transfer of credits earned in professional and clinical courses at the two-year institution will be difficult.

Environmental Health Technology

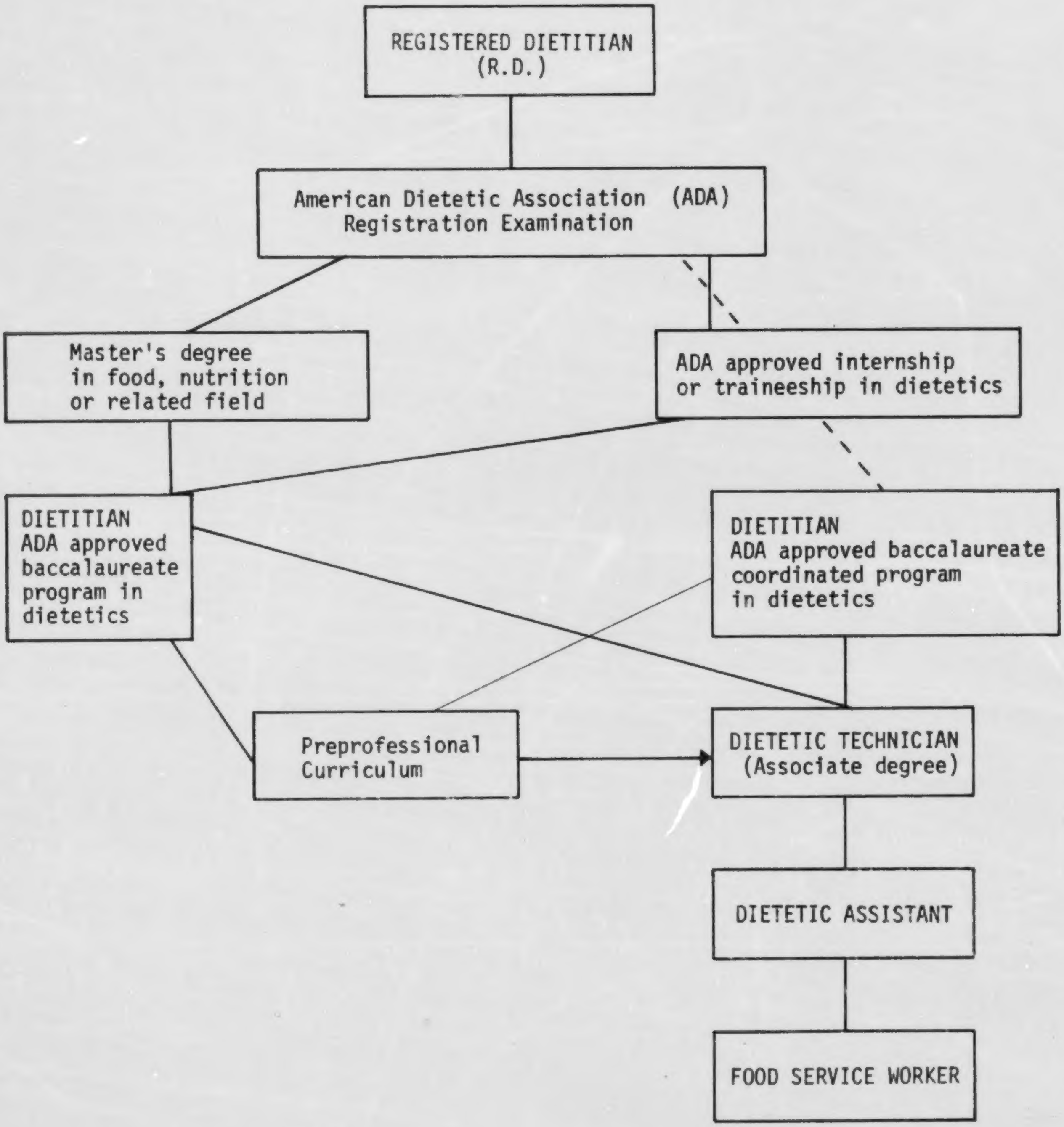
Programs leading to baccalaureate and associate degrees have proliferated since the mid-1960's as a result of increased interest in environmental concerns and as a response to a demand for professionals with appropriate academic backgrounds necessary to work in various environmental control programs. These programs have ranged from those with an engineering emphasis to those with a basic or biological science emphasis. The American Public Health Association once defined environmental health as the interrelationship between the environment and the health and well-being of man. With this definition in mind, only those programs at the two- and four-year level that emphasized man and his health as distinct from programs in ecology and marine science were considered in this study.

Two national accrediting organizations relate to Environmental Health Technology. The National Environmental Health Association extends accreditation to two- or four-year non-engineering programs. The Engineers Council for Professional Development (ECPD) extends accreditation to two- or four-year engineering or engineering technology programs including those with an environmental or sanitary emphasis. At the present time there is no particular organization that extends accreditation specifically in the area of occupational safety and health.

There are various points of entry into an environmental health career as well as mobility tracks which lead from two-year programs to a baccalaureate degree. The following career points of entry are identified with environmental health technology;

Figure IX.

CAREER LADDER AND LATTICE IN DIETETICS


REGISTERED DIETITIAN (R.D.)
American Dietetic Association (ADA) Registration Examination
Master's degree in food, nutrition or related field
ADA approved internship or traineeship in dietetics
DIETITIAN ADA approved baccalaureate program in dietetics
DIETITIAN ADA approved baccalaureate coordinated program in dietetics
Preprofessional Curriculum
DIETETIC TECHNICIAN (Associate degree)
DIETETIC ASSISTANT
FOOD SERVICE WORKER

ADA American Dietetic Association

1. The two-year general (science) pre-professional curriculum which leads to the Associate of Arts or the Associate of Science degrees. All courses in this curriculum are expected to transfer to a senior institution. In some instances this curriculum may lead to an environmental engineering program in a two-year institution. The transfer options for the student completing this curriculum are as follows:

    a. Environmental Engineering, two-year curriculum, A.A.S. degree
    b. Civil Engineering, two-year curriculum, A.A.S. degree
    c. Environmental Health curriculum, B.S. degree
    d. Engineering curriculum, B.S. degree
    e. Urban Environmental Engineering curriculum, B.S. degree

2. Environmental Engineering Technology (A.A.S. degree). Graduates from this program should be able to transfer to the following programs of study:

    a. Engineering Technology curriculum, Bachelor of Technology degree
    b. Technology (Education) curriculum, Bachelor of Technology degree
    c. Science Technology curriculum, B.S. degree
    d. Environmental Health curriculum, B.S. degree

3. Graduates of Occupational Safety and Health Technology (A.A.S. degree) curriculums may transfer to the following programs:

    a. Engineering Technology curriculum (Industrial Engineering Technology), Bachelor of Technology degree
    b. Environmental Health curriculum, B.S. degree
    c. Occupational Safety and Health curriculum, B.S. degree (There is some question at this time as to the necessity for this curriculum.)

4. Graduates of Environmental Sciences (A.A.S. degree) curriculums may transfer to institutions offering the following programs of study:

    a. Bachelor of Science or Bachelor of Arts degree
    b. Bachelor of Science and Technology or a Bachelor in Environmental Science degree
    c. Bachelor of Technology degree (Education)
    d. Bachelor of Science degree in Environmental Health

Some graduates of Bachelor of Science and Bachelor of Arts degree programs transfer to two-year institution environmental health and engineering technology programs (A.A.S. degree) after completing a baccalaureate program in arts and/or science at a senior institution.

In this discipline, associate degree programs tend to lack adequate science preparation for advanced degree study in the same field, thus forcing the student who wishes to move to advanced study leading to the baccalaureate degree to complete science prerequisites before entering the advanced curriculum. Often segments of the associate degree professional curriculum will duplicate portions of courses offered at the upper divisional level, but rarely are these professional courses at both lower and upper divisional levels which are comparable for transfer purposes.

The usual pathway in this discipline for the upper divisional curriculum is not, as in other disciplines, through an associate degree technical education program and the student who enters at this level encounters the usual differences in transferring credit to the upper divisional institution for application to requirements of the baccalaureate level professional curriculum.

Medical Laboratory Technology

As with all branches of science today, clinical laboratories have developed into a multi-faceted division of medical disciplines. During the past ten years it has been recognized that various levels of training and experience are needed to perform this variety of functions. Because of the increasing size of laboratories and the multiplicity of tests performed, medical directors have delegated more responsibility to certain technical personnel within their laboratories. In many small- and medium-sized hospital laboratories, the work force generally consists of certified laboratory assistants (CLA) and medical laboratory technicians (MLT) or their equivalents working under the supervision of a medical technologists. In addition, in larger hospitals there is the need for personnel with advanced specialized training in clinical areas such as clinical chemistry, immunohematology and clinical microbiology. These roles are often filled by medical technologists or others who have taken advanced training or degrees. In general, in larger laboratories the main work is currently the CLA, the MLT, or their equivalent, and the medical technologist (MT). Because of increased hospital costs and the advent of automation in clinical laboratories, it appears that in the near future there will be a greater need for personnel at the MLT level. Specialty areas within the clinical laboratory, such as histology and cytotechnology are not dealt with in this study because programs in these areas are well developed outside the medical technology framework.

Avenues to a professional medical technologist curriculum include the following:

A. Completion of two years of general colleges courses and prerequisites for medical technology prior to entering the professional curriculum at the junior level in a senior college or university. This particular curriculum pattern is referred to frequently as the 2+2 design.

B. Completion of three years of general college courses and prerequisites in the arts and sciences for admission to a clinical year of education during the senior year. This is often referred to as the 3+1 pattern.

C. Completion of a baccalaureate degree, including prerequisites for admission to a post-baccalaureate clinical year of education. This is referred to as the 4+1 curriculum design.

D. Completion of a CLA and/or MLT curriculum in a two-year institution of higher education at which time transfer is made to a senior college or university medical technology curriculum.

Transfer of credit earned in programs A,B, and C above is an acceptable practice with little or no loss of credit. Transfer of credit earned in a community college CLA or an MLT curriculum is more difficult because these are atypical routes to the professional medical technology curriculum and the relationship between these curricula and the medical technology curricula have not been delineated clearly by the professional associations.

Special emphasis has been given in this report to a transfer model from the MLT curriculum to a medical technologist curriculum in accordance with curriculum pattern A described above, and guidelines have been devised to help facilitate upward career mobility of students who have completed a medical laboratory technician curriculum. The 2+2 curriculum pattern is considered a more appropriate model for articulation between medical laboratory technician and medical technology programs.

It may be necessary for the MLT student to complete additional courses, probably in math and English in order to transfer to junior level standing in a medical technology curriculum in a senior college or university. The amount of clinical education necessary beyond the basic MLT two-year curriculum will depend on the length and depth of the individual's previous experience in a clinical laboratory.

Students interested in transferring to a college or university offering a medical technology curriculum as with other allied health disciplines should contact the senior university's department of medical technology as early as possible. Prior to admission, the student must make application to the university and provide official transcripts of all college work completed. A personal interview with faculty in the department of medical technology is recommended.

Credit for professional (medical laboratory) courses may be gained by examination. Such credits are usually determined by the department of medical technology after the student has enrolled in the senior institution. Examinations used for gaining credit may include a combination of written and practical examinations developed by the department as well as CLEP equivalency examinations whenever practical.

Evaluation of professional work experience is usually made on an individual basis depending on the amount and depth of experience of the individual. Students may be able to reduce the amount of clinical affiliation required which is normally 24 weeks.

The MLT curriculum is a relatively new technical level in this discipline and its relationship to the MT curriculum for transfer of credit purposes is gradually being resolved. However, as noted above, the usual route to the professional MT curriculum is not through the CLA or MLT curricula, and the student who enters the profession through a lower divisional curriculum can expect to encounter some loss of time and credits in transferring professional courses and clinical experiences.

Medical Record Administration

While medical records have been kept for centuries, the value of accurate medical records was first publicly recognized by the American Hospital Association in 1902. It was further recognized in 1905 by the medical profession through a paper presented at the annual meeting of the American Medical Association and later that year published in their journal. In 1928 medical records workers in the United States and Canada were invited to a meeting of the American College of Surgeons because the entire meeting was to be devoted to medical records and medical record keeping. The Association of Record Librarians of North America was organized at this time with 58 charter members.

The organization established an educational program in 1935 and approved four schools, one of which was a degree granting school. The Association approved and inspected its own schools until 1942 at which time the American Medical Association Council on Medical Education and Hospitals was authorized to perform this function.

In 1935 the registration examination was begun under the supervision of a board of registration. Until 1971, sucessful writing of the examination resulted in the designation of registered record librarian. The designation was changed by the 1971 House of Delegates to registered record administrator to more accurately describe the scope of responsibilities assumed by the medical record practitioner. As of January 1965, applicants for registration were required to be graduates of an approved school of medical record administration. Some schools were certificate programs requiring 2 years of liberal arts or a nursing certificate prior to entrance to the school. It was not until September 1970 that all approved programs were required to be at the baccalaureate or post-baccalaureate level. The medical record administrator is responsible for providing a system for acquiring, analyzing, storing and retrieving information so that it can be readily available when needed. This individual must be able to organize the efforts of a number of technical employees so as to achieve the objectives of the medical record department and to coordinate departmental objectives with those of the health facility in which employed. In addition, the administrator must work closely with the medical-dental staff and administration of the health care facility to assure that all standards of the various accrediting agencies are met.

The 1953 the first school for medical record technicians was approved. This new level of profession was recognized because of the need for trained ancillary personnel to assist the medical record librarian. The medical record technician serves as a specially trained assistant to the registered record administrator and carries out the many technical activities within a medical record department--typing clinical records, preparing statistical reports on patients treated, supervising clerical personnel, reviewing medical records for completeness, and working with doctors, nurses, and other health professionals on medical records and medical research projects.

From 1953 through 1969 a program designating "certified record librarians" was in effect. Its purpose was to recognize those registered record librarians who had made outstanding contributions to their profession.

Registered record administrators (RRA's) may have had the following backgrounds prior to writing the qualifying examination:

A. Experience only
B. Graduate of a non-approved school plus required years of experience
C. Accredited record technician with 60 hours of college credit plus required years of experience
D. 60 semester hours plus required years of experience
E. AA degree plus one-year certificate program
F. RN plus one year's certificate program
G. B.S. or B.S. degree plus one year's certificate program
H. Baccalaureate degree program

Accredited record technicians (ART) may have had the following backgrounds prior to writing the qualifying examination:

A. Experience only
B. Graduate of an approved one year hospital-based program
C. Graduate of an approved AA program
D. Completion of the American Medical Record Association (AMRA) correspondence course for medical record personnel

Medical secretaries may have had the following backgrounds:

A. Experience only
B. Graduate of course awarding no college credit
C. Graduate of AA or AAS degree programs

It appears that the route by which future students can be expected to enter medical record programs will be the following:

A. Students in a pre-professional curriculum for two-years transferring into a degree program for medical record administrators.
B. Accredited record technician entering a medical record administration program.
C. Medical secretary entering a medical record technician or administration program.
D. Students with any bachelor's degree entering a medical record administration program.

It is recognized that the variety of educational and experiencial backgrounds will necessitate individual evaluation and placement according to the policies and regulations of the receiving institutions.

The American Medical Record Association believes that an accredited record technician should have the opportunity to complete academic requirements for registration as a medical records administrator. The medical record technician and the medical record administration educational programs should be coordinated to allow ease of progression, avoid subject matter duplication, and minimize loss of academic credit.*

If this recommendation is carried out, and if the routes of entry to this profession are those which are forecast above for future students, problems of transferring credit will be eased. However, for those students who have acquired professional status by experience and some education in an institution of higher education, individual evaluation and placement for purposes of pursuing a baccalaureate degree will probably be necessary.

Physical Therapy

Within the concept of comprehensive medical care, physical therapy represents that aspect of care primarily concerned with evaluation and treatment of human motor functions. To sucessfully participate in this role, personnel in physical therapy must have in-depth understanding of normal structure and function; deviations from normality; and methods of management fundamental to the care of injury and disease in skeletal, muscular, nervous, cardiovascular, and respiratory systems.

The practice of physical therapy may occur at two levels; as a professional physical therapist (LPT) or as a physical therapy assistant (LPTA). The physical therapy assistant works within the physical therapy service, which is under the direction of the physical therapist. The assistant is responsible to and supervised by the physical therapist who is responsible for patient evaluation as well as treatment program planning and implementation.

Educational programs at both levels must be approved by the Joint Committee on Accreditation of the American Physical Therapy Association and the American Medical Association. Most states of the Union require licensure to practice physical therapy. Educational curricula may utilize any of the following formats:

1. Completion of two years general college pre-physical therapy followed by two years professional courses resulting in a Baccalaureate degree. (2+2 design)

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*American Medical Record Association statement on progression.

2. Completion of three to four years college(with or without degree) courses including prerequisites for admission to a fourteen to sixteen month professional curriculum. (certificate design)

3. Completion of a Baccalaureate degree program with a major in an appropriate science and admission into a master's degree program which includes the professional physical therapist curriculum. (Basic Masters design)

4. A new technical program in this field is the physical therapy assistant curriculum. The physical therapy assistant is prepared in a two-year, technically-oriented community college program leading to some type of associate degree.

Transfer of credit earned in designs 1, 2, and 3 above is an acceptable practice. To minimize loss of credit, students interested in transferring to a college or university offering a professional physical therapy curriculum should contact the senior university's Department of Physical Therapy as early as possible.

The curriculum in which a physical therapy assistant is prepared is designed to equip the graduate with specific knowledge and skills and is not considered to be a pre-professional curriculum for admission to a professional physical therapist curriculum leading to a baccalaureate degree. In general, the physical therapy assistant curriculum is deficient in both general college and pre-physical therapy requirements which must be completed before the student can be admitted to junior level standing in a baccalaureate program. Without additional study beyond the associate degree for the physical therapy assistant, it is usually not presently possible for a graduate of this program to transfer to a baccalaureate program in physical therapy with junior level standing.

Graduates of the physical therapy assistant curriculum can expect to transfer some credits to the senior institution--usually general education and pre-physical therapy course requirements.

There are no specific physical therapy assistant courses which are comparable for transfer purposes with upper divisional level professional courses. In order to grant the student some recognition for knowledge and experience gained in the physical therapy assistant curriculum, some institutions are experimenting with modular units for transfer purposes.

However, before much headway can be made to transfer professional theory and clinical courses, the professional association must clarify the relationship between the professional theory and clinical courses of these two programs for transfer of credit purposes.

Dental Auxiliaries

With the changing patterns of educational preparation for careers in the allied health sciences and with the philosophy that appropriate learning experiences can be gained outside the classroom and traditional education approaches, mechanisms must be established that will provide for recognition for such experiences. Further, with the increasing need for well-qualified and properly trained dental auxiliary personnel in the public health/ education sectors and the changing emphasis on preventive dentistry, and with the increasing needs for well-trained persons in teaching and educational administration, it has become essential that new and additional avenues of career mobility and advancement be made available to those dental auxiliary students who appear to be especially motivated to seek additional advanced education.

Dental hygienists, dental assistants, and dental technicians who have completed their professional education and are certified or eligible for certification should be permitted to pursue an educational program that will provide education in greater depth than that which is available in present two-year programs.

Upper divisional study leading to a baccalaureate degree for dental auxiliary students usually is for the purpose of obtaining more depth of preparation in professional theory and related science courses, in clinical areas, and to prepare for teaching roles.

The dental hygienist who wishes to prepare for a teaching role, who has completed professional curriculum accredited by the Council on Dental Education of the American Dental Association, and who has passed successfully the national examinations given by the National Board of Dental Examiners should be accepted for junior level standing in a senior university. Often the senior college or university accepts the student for study leading to a baccalaureate degree even though that institution has no comparable senior level of study in this particular discipline.

Dental assistants or dental laboratory technicians who have completed professional curriculums accredited by the Council on Dental Education of the American Dental Association, who have been certified by the certifying Board of the American Dental Assistants Association on the National Board of Certification for Dental Laboratory Technicians and who have an associate degree may be granted credit for professional/ technical courses, basic science courses, and liberal arts and general education courses all of which may be equivalent to approximately two academic years of lower divisional work and thus qualify them for junior level standing. Here again the senior institution is not likely to have an equivalent upper division program, and thus is unable to evaluate competency in the dental auxiliary field. Again the course of study pursued is one which qualifies the individual for a teaching role.

Sometimes the dental assistant or dental laboratory technician has qualified for certification by virtue of on-the-job training and experience rather than through a formal program based in an academic institution. In this situation credit may be granted through a series of appropriate challenge examinations. This is particularly difficult for the institution that does not have a dental education program.

Radiologic Technology

Radiologic technologists receive basic professional education during two years of post-secondary education in programs accredited by the American Medical Association's Council on Medical Education. Successful completion of the two-year program enables the student to write the national certification examination of the American Registry of Radiologic Technologists.

Traditionally, technologists received their professional education in hospital-based programs not granting educational degrees, and the majority of technologists today acquire basic knowledge and skills necessary for certification by this route. Such an arrangement has in general curtailed further career advancement in institutions of higher education.

Recently, radiologic technology education has been redirected to educational institutions and, primarily, to two-year community colleges. The number of two-year educational programs in radiologic technology granting associate in applied science degrees is increasing. This indicates a strong trend toward academically based programs with subsequent strengthening of career advancement opportunity.

Growth and basic changes in educational programs with radiologic technology, in addition to corresponding growth and sophistication of clinical radiological services within the field, have created a need for a career ladder which enables technologists to acquire preparation beyond basic levels to assume leadership roles in education and administration.

In response to this need, senior colleges and universities have offered technologists advanced career opportunities in education and administration courses leading to a baccalaureate degree. Basic professional radiologic technology education may also be acquired in a four-year curriculum leading to a baccalaureate degree.

Differentiation of knowledge and skills of graduates from two-year and four-year basic radiologic technology programs has not been established nationally by the profession. Until this situation is resolved, the relationship between two-and four-year radiologic technology programs remains unclear as does the objective of advanced education for the graduate of the two-year curriculum. Opportunities available for advanced education leading to preparation for teaching and management functions for graduates of programs in two-year academic institutions should but generally do not provide for additional preparation in the professional and clinical areas. Patterns are still evolving for career advancement in higher education for radiologic technologists.

Community College Programs

Graduates of the two-year academic community college program who have received an associate degree and who possess certification by the American Registry of Radiologic Technologists should expect to transfer credit to a senior institution which offers advanced education opportunities for radiologic technologists.

Hospital-Based Certificate Programs

Graduates of hospital-based certificate programs accredited by the American Medical Association's Council on Medical Education and who are certified by the American Registry of Radiologic Technologists should, upon admission to an appropriate two-year or senior institution, be granted optimum credit for previous experience in the hospital-based program applicable towards an associate or baccalaureate degree. Because of variation in such programs, the amount of credit should be determined on an individual basis by utilization of an appropriate method of validation such as review of course content, demonstration of clinical skills and CLEP and institutional examinations.

Advanced Placement for Certified Radiologic Technologists

Properly certified radiologic technologists who are graduates of either academic or hospital based accredited programs who have aquired professional knowledge and expertise beyond basic knowledge and skills should have opportunity to aquire advanced standing in a radiologic technology program offered by a senior college or university by demonstration of clinical

Further study is necessary to clarify the differences and relationship between community college and senior college and university basic and advanced curricula in radiologic technology. Because advanced educational opportunities at many senior institutions for radiologic technologists is in developmental stages, close liaison between faculties in the community college and senior institutions is desirable to avoid problems in credit transfer which have been experienced by other allied health disciplines. In order to grant maximum credit for previous education and experience, which may have been acquired outside formal educational institutions, equivalency and professional examinations and other means of validating professional education and experience in radiologic technology are needed.

This is an allied health discipline which will benefit from active interest and effort by the professional association to establish patterns for career mobility and to clarify the relationship between two- and four-year professional curricula in this field.

Respiratory Therapy

Respiratory* therapy as an allied health profession encompasses a multiplicity of identifiable levels based on academic achievement and/or proven proficiency. These levels include therapists, technician, assistant and student, each having sub-levels with specific requirements, as identified below. Anticipated dates finalizing nationally accepted credentials are also provided.

Therapists

1. Respiratory Therapist: one who is a graduate of a respiratory program approved by the AMA to prepare candidates for the examinations given by the American Registry of Inhalation Therapists, Inc. ARIT, now the National Board of Respiratory Therapy, NBRT. The minimal admission requirement currently established by the NBRT is an associate degree from an AMA approved, or provisionally approved, school of respiratory therapy.

2. Registered Respiratory Therapist: one who has been registered by the NBRT and given the title of American Registry of Respiratory Therapists.

Technicians

1. Respiratory Therapy Technician:

   a. Effective until December 31, 1974: one who is a graduate of a respiratory therapy program designed to prepare candidates for certification by the Technician Certification Board of the American Association for Respiratory Therapy (AART), or one who has received on-the-job training in respiratory therapy.

   b. Effective January 1, 1975: one who is a graduate of a respiratory therapy program designed to prepare candidates for certification by the Technician Certification Board of the AART.

2. Certified Respiratory Therapy Technician: one who has been so certified by the Technician Certification Board of AART, now incorporated within the NBRT.

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*Throughout this statement, "Respiratory" and "Inhalation" shall be considered synonyms because all organizations involved in this profession have not undergone name changes.

Assistants

Respiratory Therapy Assistant: one who has received on-the-job training in respiratory therapy--to become effective January 1, 1975.

Students

1. Respiratory Therapy Student: one who is enrolled in a program (primarily college based) which follows the essentials of a respiratory therapy program established by the AMA.

2. Respiratory Therapy Student-Trainee: one who is employed by a hospital in the respiratory therapy service while engaged in a technical program (primarily hospital based) which follows the essentials of a respiratory therapy program established by the AMA.

Prior to 1970, the only credentialing body for the profession was the AART which examined only therapist level candidates. In 1970, the Technician Certification Board (TCB) of the AART, was developed for the purpose of examining a second level--the Respiratory Therapy Technician. Admission requirements for both examinations have been elevated in accordance with the advancement of the profession. For example, the admission requirements for the therapist level examination have advanced from on-the-job training to a minimal academic requirement of an associate degree. Similarly, the admission requirement for the technician level examination originally was on-the-job training which, as of January 1, 1974, will change to require all candidates to be graduates of AMA-approved, or provisionally approved, respiratory therapy technician programs.

Thus far, this data has related to the current status of the Respiratory Therapy profession. Modifications of the current system are expected. By way of explanation, the AART recently completed phase one of a contract awarded by the Bureau of Health Manpower Education, National Institutes of Health, which delineated the roles and functions of respiratory therapy personnel. The delineation identified the skills and knowledge of two testable levels within the profession. Now underway is the second phase of the delineation which involves the development of proficiency examinations for the two levels (identified as entry levels II and III). It would appear that these levels parallel what is now known as Certified Respiratory Technicians (level II) and Registered Respiratory Therapists (level III). Also, it would appear that the proficiency examinations are being developed to recognize competence of those who have not received formal education in respiratory therapy. The actual requirements for entry at either of these levels should be announced prior to 1975. If proven valid, the proficiency examinations may be adopted by the profession as a credentialing mechanism. Further, the Technician Certification Board of the AART and the American Registry of Inhalation Therapists, Inc. are actively negotiating to determine whether the AART can assume full responsibility for credentialing technicians, as well as therapists, by January 1, 1975.

In summary, the transitional period of progressing academic requirements for the respiratory therapy profession would appear to be stabilizing. The following developments have ocurred or are anticipated during the year 1974 when this study was conducted:

1. The establishment of a single, nationally accepted credentialing body by the consolidation of the TCB of the AART and the ARIT. On June 9, 1974 the American Registry for Inhalation Therapy (ARIT) and the Technician Certification Board (TCB) merged to form a new National Board of Respiratory Therapy (NBRT). Included with the change in the name of the credentialing body is also a change in the designation of registered therapists. Registered therapists are now no longer ARIT but ARRT, American Registered Respiratory Therapists.

   The new NBRT has already proposed to ease its entry requirement for registry for applicants who are already certified technicians. A certified technician would be eligible to take the written exam if he has three years of experience in respiratory therapy under medical direction after certification and has accumulated 62 college credits from a fully accredited college or university which must include the basic science requirements of schools of respiratory therapy. This proposal has yet to be acted upon.

2. The creation of professionally developed examinations for two levels of respiratory therapy personnel. The first of such exams was tested for validity in the March 1975 registry exam. Data from the exam have yet to be published.

3. The recognition of clinical experience and academic equivalency necessary for entry into the profession through proficiency examinations.

Because this allied health discipline is in an evolutionary stage of development, the purpose and track for credit transfer at the upper divisional, baccalaureate degree level is difficult. However, the pattern of career mobility which is evolving appears similar to that of the dental auxiliaries in that the purpose of advanced study is to broaden the students' background in the professional-clinical area and to prepare him for teaching and administrative roles.

Physician's Assistant

Adequate health care in the United States continues to be a critical problem for many people. Many citizens of this nation do not receive the quality or quantity of health care they need because of the shortages of primary care physicians in a number of geographical areas. The need, therefore, for more and better trained professional medical personnel has been and continues to be widely chronicled.

One way of trying to meet the pressing need for health care delivery is through the education of physician's assistants, who, by virtue of their training, possess both the human qualities and the technical skills needed to perform as a surrogate physician. Because of the importance of these health professionals, it is imperative that such individuals have the opportunity to pursue a baccalaureate degree program in one of the senior colleges in our state. For it is through such a program that the humanizing elements will be combined with the skills development education such individuals may have received or will receive in the formal physician's assistant training programs.

The term "Physician Assistant" is a generic one which is used to designate a group of individuals who vary widely in the kinds of experiences and in the depth of training which they have had. Physicians' assistants are mid-level professionals who are trained to take on some of the medical tasks traditionally performed only by physicians.

Senior institutions will be faced with the problem of deciding whether or not to grant credit toward a baccalaureate degree for the completion of the different programs which provide physician assistant training. Various criteria might be adopted by these institutions to be used in determining, in the case of each degree candidate, whether or not such credit will be granted. Some such critieria which will be available and which can be used singly or collectively by the degree-granting institutions are:

A. The candidate has been graduated from a physician assistant program which has been certified as meeting the "Essentials of an Approved Educational Program for the Assistant to the Primary Care Physician" established by the Council on Medical Education of the American Medical Association.

B. The candidate has achieved a passing grade on the certifying examination for assistants to the primary care physician which is written by the National Board of Medical Examiners and administered under the auspices of the National Commission on Certification of Physician Assistants.

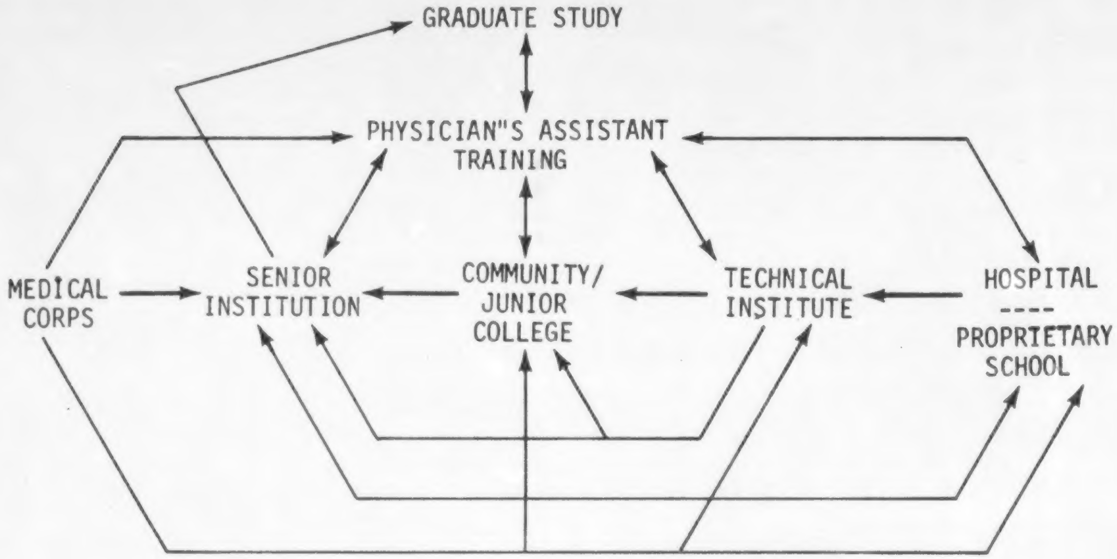
C. The candidate is registered by the State Board of Medical Examiners as one qualified by training or experience to function as an assistant to a primary care physician.

Students may begin their post-secondary education leading to a career as a physician's assistant at all types of institutions: hospitals, proprietary schools, technical institutes, community and junior colleges, and senior colleges.

In addition, formal education as a physician's assistant may be preceded by service as a medical corpsman in the Armed Forces. Figure X seeks to present possible educational routes.

Figure X.

Physician's Assistant Educational Flow Chart



A prerequisite for entry to many physician assistant programs is experience with patients in some type of clinical setting.

The physician assistant is a relatively new member of the health professions family. The place of the educational program for the physician assistant in the academic institution is still being determined. Until this is clearly defined, transfer of credit for purposes of acquiring a baccalaureate degree will continue to be difficult.

Recreation Therapy

Recreation therapy or recreation services to special populations first began in the late 1920's when the Federal Government instituted organized recreation services in Veterans Administration hospitals. Generally those providing these services were not formally prepared in recreation but rather had training in an allied field such as education, nursing, physical education or social group work, or otherwise had little or no formal education beyond elementary or high school. During the 1930's and especially after World War II, recreation services in certain treatment settings such as state hospitals, military hospitals, and private psychiatric institutions also appeared.

The American National Red Cross and the Veterans Administration were among the first to acknowledge it as a speciality and employ therapeutic recreation personnel to direct their programs, a pattern that in the last two decades had gained wide acceptance. Shortly thereafter, colleges and universities instituted options and special curricula for the preparation of therapeutic recreation specialists. These course offerings were available almost exclusively within the baccalaureate recreation leadership and recreation administration programs. Later, graduate specializations in therapeutic recreation occurred and a distinction between the professional therapeutic recreation specialist and the recreation therapist technician was sought since these two dominant roles had emerged in the therapeutic recreation service. The first was that of the professional whose major responsibilities were in program development, program evaluation, and program implementation. The other was that of the activity leader who assumed a technician or paraprofessional role involving the conducting of activities, the supervising of residents or clients in recreation activities and reporting on the activity participation of those residents or clients.

It was generally held by recreation professionals that baccalaureate preparation in recreation with a heavier concentration of recreation courses related to special populations was necessary for preparation for the professional role although a graduate level preparation in therapeutic recreation was most preferred. The activity leadership or recreation technician role was thought to be best prepared at the two-year college level where more stress could be given to the practical activity planning and leadership responsibilities. This trend was consistent with the general development of career concepts in the field of recreation occurring during the 1960's. By 1970 two-year institutions offering leadership programs were becoming commonplace as were an increased number of four-year and graduate programs in recreation administration at the college and university level.

This emerging pattern of career levels within the therapeutic recreation profession was acknowledged by the National Therapeutic Recreation Society and is reflected in its voluntary registration program. Initially the registration plan had only two levels: one was the Therapeutic Recreation Specialist; the higher level registration was the Master Therapeutic Recreation Specialist. In recent years this registration plan has expanded to include the technician or paraprofessional person who functioned primarily in the activity leadership role. Currently there are six levels of voluntary registration: Therapeutic Recreation Assistant; Therapeutic Recreation Technician I; Therapeutic Recreation Technician II; Therapeutic Recreation Leader; Therapeutic Recreation Specialist; and Master of Therapeutic Recreation Specialist. The Therapeutic Recreation Technician II reflects the development of the Associate degree; it is this level of registration which requires the completion of two years of college work in an accreditated community college in recreation or a field related to therapeutic recreation.

Opportunities for employment in therapeutic recreation are available for those with less than two-years college education. Advancement, however, depends upon experience and education. This also is accounted for by the registration plan of the National Therapeutic Recreation Society. For those entering at the level of Therapeutic Recreation Assistant or Therapeutic Recreation Technician I, sucessful experience in the field and participation in authorized in-service training programs are prerequisites. The Therapeutic Recreation Technician II requires the associate degree with emphasis in recreation, as earlier discussed. The Therapeutic Recreation Leader position requires the baccalaureate degree while the Therapeutic Recreation Specialist and Masters Therapeutic Recreation Specialist are normally achieved through advanced graduate study. In all instances experience is viewed as a viable alternative to formal education but specific minimum levels of education are indicated for each level of registration.

Career opportunities for both the paraprofessional and the professional therapeutic recreator may be found in both residental facilities for special populations and general community based agencies. State hospitals and training institutions, community mental health centers, municipal park and recreation departments, day care centers, nursing homes, and correction agencies all employ therapeutic recreation specialists and technicians.

In addition to basic general education experiences, there is a general professional core of competencies which apply to both the technician and professional level although the level of expected competency will vary. General professional core competency areas for teaching and professionals include:

1. History and foundations of therapeutic recreation

2. Concepts of disability

3. Human personal and social growth and development

4. Interpersonal relations - individual group processes

5. Communications and report writing

6. Professional identification and involvement

Specific competency areas in relation to level of preparation are described in the following paragraphs.

Associate degree The primary competency areas for the associate degree graduate should be in activity skills: planning and conducting activities. This should reflect some variety of activity skills in areas of athletics, sports, physical games and stunts, arts and crafts, music, dramatics, and recreo-social activities. In addition skills in activity planning, organization and implementation should be stressed.

Baccalaureate degree The professional therapeutic recreator with a baccalaureate preparation should have additional competencies in the area of program planning and evaluation, activity analysis, participant assessment and evaluation skills. Further, this person should have competencies relating to community organization, utilizing community resources, public relations, budget formulation and basic supervisory skills.

Masters degree This level of study should provide for the development of advanced clinician skills and facilitate the acquisition of abilities needed for comprehensive program development and evaluation. Also, opportunities for development in the areas of training and staff development counseling, consultation, and higher level management should be present. Finally, at this level basic introduction to scientific research in methods and practice and techniques of measurement and evaluation should be provided.

Clinical or field practice is an essential component of the therapeutic recreation curricula at all three levels. Students should be provided with opportunities to apply the concepts and skills learned in the classroom in regard to planning, organizing and implementating programs or activities, and working with and for others. These supervised experiences should range from observations to full-time involvement which will also enable the student to self-evaluate and determine the appropriateness of therapeutic recreation as a career field.

Conclusions

The brief descriptions of allied health disciplines in this chapter point up problems which complicate transfer of credit. The study committees considered all of these situations as they approached the task of developing guidelines for institutions which wished to accept transfer credit earned in allied health education programs. Obviously, solutions to all of these situations were not possible in the project. However, the guidelines which follow in the next chapter point the direction for institutions and professions to follow as they work individually and together to assist the student to find a smoother path to follow as he pursues an academic career in allied health.

7. PROBLEMS AND RECOMMENDED GUIDELINES RELATED TO THE TRANSFER OF CREDIT

General problems with the development of policy for the transfer of credit between North Carolina education institutions may be traced to several factors--organizational relationships among institutions, differences among programs in senior institutions, differences among public two-year institutions, differences among programs in two-year institutions, and differences among associate level degrees.

No single organization speaks for all post-secondary education in North Carolina. As was indicated in Chapter 3, there is a complex variety of institutions in the state. This variety means that uniform policies regulating transfer of credit may not be imposed upon all institutions. Instead, such policies are recommended to senior institutions and each institution complies with them on a voluntary basis. The vehicle for the development and publication of such policies is the Joint Committee on College Transfer Students which was created in 1965. Transfer guidelines or policies developed in the articulation project and listed in this chapter were recommended to the Joint Committee on College Transfer Students in 1974 and will be published in 1975 in its revised and updated publication, Transfer Guidelines.

The development of policy for the transfer of credit was complicated by differences in program requirements in senior institutions. Traditionally, specific course requirements for baccalaureate degrees have been established by each senior institution independent of all others. The resulting diversity in requirements, even when slight, is difficult to address in a statement of policy which is intended to apply uniformly to all institutions.

The development of policy for transfer of credit was further complicated by the fact that there are two types of institutions within the state's Community College System--community colleges and technical institutions. The difference between these institutions is defined in Section 115A-2 of the General Statutes of North Carolina: A community college is one which "offers the freshman and sophomore courses of a college of arts and sciences" in addition to technical, vocational, and general adult education curricula. A technical institute, on the other hand, is defined as an institution which offers only the technical, vocational, and general adult education curricula. By definition then, technical institutes have not been regarded as institutions concerned with the preparation of students for transfer to senior institutions. However, because allied health education programs are offered by both community colleges and technical institutes, development of a means for transfer from these programs implies an additional function for technical institutes.

Development of policy for the transfer of credit was also complicated by differences among programs in the two-year institutions. The college-parallel program is the primary college transfer program. Technical programs and vocational programs, on the other hand, are designed for immediate employment. Allied health education programs are generally either technical or vocational in nature. Therefore, policies which provide for the transfer of credit from these allied health programs represent a departure from general practice.

Allied health education programs conducted by hospitals or the military were also a concern of the project. In this case, too, policies which provide for the transfer of credit from hospital-based and military-based programs represent a departure from general practice.

Diversity in allied health education programs complicated policy development for the transfer of credit. In the case of medical laboratory technology, programs leading to certification as a certified laboratory assistant (CLA), medical laboratory technician(MLT), and medical technologist (MT) overlap one another in ways that are not clearly defined. On the other hand, programs within the dental auxiliaries are viewed as independent sub-professions. It was difficult, therefore, to develop policies for the transfer of credit which will apply uniformly to all allied health professions.

Differences between programs existed in terms of the general education component of technical and college transfer programs. All allied health programs have a minimum of 18 hours of general education in the areas of English and social sciences. In addition each allied health program may have academically related courses in natural and physical sciences plus additional course work in the social sciences. Although these courses may be considered as professional courses in technical programs, most four-year colleges and universities consider them to be a part of the general education requirement (96 hours). Therefore, the number of credits in general education in allied health programs may realistically exceed 18 hours. The acceptance of technical programs (allied health) for transfer credit _in toto_ may mean a substantial change in the sequencing of courses for a baccalaureate degree as well as some change in the requirements for the degree.

A second problem with the general education component was that courses in the same subject matter may differ because they are designed for technical programs as opposed to college transfer programs. In the case of English, for example, a course for technical programs may require texts and assignments different from those in the English course for the college transfer program. To grant transfer credit for both courses is to ignore the different purposes for which such courses were created in the first place.

Differences among programs may also be expressed in terms of the associate level degrees which are awarded upon completion of programs. The Associate in Arts (A.A.) degree or the Associate in Science (A.S.) degree is awarded for the completion of college transfer programs. The Associate in Applied Science (A.A.S.) degree is awarded upon completion of a technical program. The A.A. and A.S. degrees traditionally have been regarded as degrees which permit transfer to a B.A. or B.S. program. Generally the A.A.S. degree has not been regarded as one which would transfer. This presents a problem for allied health education programs because they usually lead to an A.A.S. degree. As in other respects, policy providing for transfer of credit from these programs meant a departure from a general practice.

One notable exception to these generalizations about associate-level degrees existed in a special baccalaureate degree--the Bachelor of Technology degree which was offered by two institutions in North Carolina. Transfer students with A.A.S. degrees in engineering and business technologies could enter such a baccalaureate program with little loss of credit for their first two years of work. The B.T. degree, however, did not accept A.A.S. degree students from allied health programs at the time of the project. A second exception to the general non-transferability of A.A.S. degree credits was a modified B.S. degree program which accepted course work in the allied health field as the academic major.

Creation of a special baccalaureate for A.A.S. degree students in allied health programs or expansion of B.T. programs to include such students would greatly minimize problems in the development of policy for the transfer of credit between the two degree levels. In effect it would provide a three-track approach to the baccalaureate degree with the A.A. leading to the B.A., the A.S. leading to the B.S., and the A.A.S. leading to the B.T. However, development of such clearly identified paths of study and transfer is likely to invite informal labelling of one path as second-rate or inferior-- a problem not easily controlled by those who create new policies and programs.

All of the factors discussed above indicate the context in which consideration of policies for transfer of credit in allied health education programs occurred in North Carolina.

The Definition and Purpose of Transfer

Transfer may involve moving from one program to another in a two-year institution or senior institution, moving from one two-year institution to another or from one senior institution to another, or moving from a two-year institution to a senior institution.

The purpose or value of the baccalaureate degree in certain allied health professions has not been entirely clear up to this time. Furthermore, the kinds of programs to which allied health professionals might transfer have not fully been identified. In addition to the transfer models identified in Chapter 5, the following statements about the purpose of transfer for allied health professionals are intended to clarify this situation:

Allied health professionals should have the opportunity for career mobility and advanced higher education according to individual interest and ability.

Allied health professionals should be able to transfer in order to further their education in any of the following areas: advanced professional education (MLT transfer to MT), advanced and other professional education (teacher education, administrator education), advanced education in a related science (chemistry, anatomy), or expanded liberal arts education.

The advanced professional education option is described in Chapter 5 as Transfer Model C: Intermediate Professional Curriculum. Other professional education and advanced education in a related science are options included within Transfer Model B: Basic Professional Curriculum. Most transfer problems in the allied health disciplines are related to these two transfer models. Specific problems and their solutions in the form of recommended guidelines appear in the sections which follow.

PROBLEMS INVOLVING CRITERIA FOR ADMISSIONS

Problem Articulation encourges upward mobility at the same time that space in applied health programs in senior institutions is limited. This guideline is intended to address this conflict:

1. Students who demonstrate ability in their work at the two-year college level and/or in successful practical experience should be encouraged to continue their education in the allied health professions.

Problem Completion of an associate degree program could be required as evidence of a student's ability for and interest in advanced education. Strong support for associate level degrees could be demonstrated in these guidelines by recommending that all students who wish to transfer should hold such a degree. The merit of such a recommendation is that it would simplify the development of transfer guidelines.

However, such a recommendation could prove to be inconsistent with the general goal of the project which is to provide opportunity for upward career mobility. Requiring an associate degree in every instance could prevent some very able people from advancing in their professions. A second consideration is that students in technical institutes are likely to receive more credit for their lower division work if they transfer as soon as possible rather than completing their program in the technical institute. If a student knows during the first year of work that he would like to transfer, he will probably save himself time by transferring at the end of his freshman year. This guideline is intended to meet all of these considerations:

2. Normally transfer students to senior institutions should be expected to possess an associate degree or to have completed two years of study in a post-secondary institution. Possible exceptions to this guideline are as follows:

    a. Allied health professionals with successful experience who lack an academic background.
    b. Allied health students in technical institutes for whom early transfer would be advantageous.

Problem The Associate in Arts (A.A.) degree and the Associate in Science (A.S.) degree are awarded upon completion of transfer programs. Such programs are offered by community colleges in North Carolina. The Associate in Applied Science (A.A.S.) degree is awarded for completion of a technical program. Technical programs are offered by both the community colleges and technical institutes in North Carolina. The intent of this guideline is to provide an opportunity for transfer for allied health professionals with A.A.S. degrees from community colleges and technical institutes.

3. The holder of an associate degree(A.A., A.S., or A.A.S. whether granted by a junior college, community college, or technical institute) who has completed a nationally accredited allied health education program and who is professionally certified should be considered for admission as a transfer student.

Problem Often completion of an A.A.S. degree program is not regarded as acceptable evidence of a student's ability or academic preparation for advanced work. When this is the case, completion of certain high school units (e.g., four years of English or three year of mathematics) may be required. Such a requirement generally will discourage a student from attempting to transfer or if he does transfer, lengthen the time it will take him to earn the baccalaureate degree. The following guideline is intended to minimize this problem:

4. The admission of A.A.S. degree students should be based upon work completed for the degree. Such students should not have to meet high school unit requirements which are inappropriate to the baccalaureate degree they are seeking.

5. Two-year college students who are ineligible to enter a four-year institution at the freshman level because of poor high school records should not be denied admission as transfer students on these grounds. (Joint Committee on College Transfer Students)1

Problem Certified allied health professionals who have completed some college work but lack a degree may be discouraged from attempting to transfer if they must fulfill high school unit requirements. The following guideline is intended to minimize this problem:

6. Transfer applicants who do not hold an associate degree but who have fulfilled requirements for certification in a specific allied health field should not have to meet high school unit requirements which are inappropriate to the baccalaureate degree they are seeking.

PROBLEMS INVOLVING CREDIT

Problem The amount of transfer credit which a student receives determines to a large extent the length of time it will take to obtain a baccalaureate degree. Since the A.A.S. degree has not been regarded generally as one which leads to transfer, there is a question of how much credit may be applied to a baccalaureate degree. If work toward the A.A.S. degree is accepted as two full years of credit toward the baccalaureate, a transfer student with an A.A.S. degree should be able to complete work for the baccalaureate in an additional two years. At the other extreme, if little credit is given for the A.A.S. degree course work and a student with such a degree is accepted for transfer, nearly four additional years of work may be required for the baccalareate. This guideline attempts to advocate that some course work toward the A.A.S. degree should be given credit toward the baccalaureate Degree but without specifying the amount:

7. Transfer students in the allied health professions should have the opportunity to continue their education without unnecessary loss of time. However, it should be recognized that the A.A.S. degree may fulfill less than half of the credit requirements for the baccalaureate degree. A transfer student with an A.A.S. degree may be required to take more than two years beyond the A.A.S. degree to obtain a baccalaureate degree because of the educational option he elects, institutional and professional requirements, and the sequence and organization of courses.

Problem Any delay in the evaluation of a transfer student's transcript works to his disadvantage. Validating mechanisms, for example, function after a student has completed his course work. This means that he does not know until the validating mechanism has been applied whether or not he will receive transfer credit for a course. This further means that the transfer option as such has not been clearly spelled out. The situation then is in conflict with a general goal of the project which is to make transfer options as clearly understood as possible and to make as clear as possible the requirements and procedures for transfer.

8. Prior to registration at a senior institution, perferably at the time of acceptance a transfer student's transcript should be evalauted and the student should be notified of the transfer credit which he will be given for general academic course work and for professional courses where possible. Additional professional courses should be evaluated as soon as possible after enrollment in order to notify the student of the credit which he will be given.

Problem Professional courses in allied health programs leading to the A.A.S. degree generally are not regarded as transfer courses. If they are to be accepted for transfer credit, there is a problem of how much credit should be given for such work.

Related to this problem is the distinction between lower division and upper division work which may be an artificial barrier to articulation. At least since the time of Harper at the University of Chicago, faculty and administrators in senior institutions have thought they understood the difference between upper and lower division work. Generally, lower division work is considered to be of an introductory nature and upper division work is considered to be of an advanced nature usually resulting in specialization in some discipline. Wherever this distinction is upheld, it poses a special transfer problem. A transfer student from an allied health program who has the A.A.S. degree plus certification in a profession and who does not intend to take additional professional courses at the senior institution will in effect be asking the senior institution to regard professional course work as the equivalent of an upper division major. This then leaves a student with the need to satisfy general education requirements, most of which are of a lower division nature. The net effect of this situation is that the transfer student will have completed work mainly of a lower division nature for the baccalaureate degree. As some critics point out, this is an attempt to make two associate level degrees equal to one baccalaureate degree. Viewed from another perspective, the problem is a question of what professional course work should be accepted in lieu of professional components at the senior institutional level.

9. Transfer students within and between educational institutions who have completed their work in an accredited allied health program and who have passed a state licensure examination or have national certification should be granted optimum credit for their professional course work by utilization of an appropriate method of validation such as review of course content, demonstration of clinical skills, and CLEP institutional examinations.
10. Transfer students within and between educational institutions who have completed their work in an accredited allied health program and who have passed a state licensure examination or have national certification should be granted optimum credit for their practicum or clinical work by utilization of an appropriate method of validation such as review of course content, demonstration of clinical skills, and CLEP and institutional examinations.

Problem Certificate programs in hospitals vary in the quality and scope of work offered. This variety complicates the development of uniform transfer guidelines dealing with such programs. This guideline attempts, however, to support the opportunity for transfer from a hospital-based or military-based program on at least an individual basis.

11. Any graduate of an approved hospital-based or military-based certificate program in the allied health professions who has passed the certification examination shall upon admission to an appropriate two-year or senior institution be granted optimum credit for previous experience in the hospital-based program on an individual basis by utilization of an appropriate method of validation such as review of course content, demonstration of clinical skills, and CLEP and institutional examinations.

Problem Many in the allied health professions are employed without certification. Others were certified at an earlier date when certification requirements were lower than they are now. Presumably upward career mobility should be available to individuals in both of these categories. This guideline attempts to identify an avenue of upward career mobility based upon academic course work:

12. Since the likelihood of obtaining academic credit for previous experience is greater in a two-year institution than a senior institution, individuals who lack certification or whose professional training is dated or whose professional training is current but not documented should be encouraged to start academic work in a technical institute or a community college. Such institutions should validate knowledge acquired through experience. (This is not intended to discourage allied health professionals who lack academic backgrounds from starting their work in senior institutions if such a procedure will be most advantageous to them.)

Problem College level courses offered through university and college extension centers or contractual programs award credit which in some instances has not been regarded as transferable. This situation penalizes individuals who have attempted to improve themselves and their career mobility through educational experiences on a part-time basis.

13. Receiving institutions should accept credit for college level courses offered by accredited institutions in university or college extension centers and in contract with technical institutions. (Joint Committee on College Transfer Students).

Problem Some college level courses may be completed prior to graduation from secondary school. In a transfer situation there may be reluctance to accept credit obtained in this fashion.

14. College level courses completed at accredited collegiate institutions prior to secondary school graduation should be evaluated in the same manner as other courses which may appear on the institutions' transcripts. (Joint Committee on College Transfer Students).

Problem Challenge examinations enable a student to demonstrate mastery of subject matter without taking a course. Procedures for recording such examinations on transcripts appear to vary and may complicate transfer to another institution. This guideline is intended to minimize such complications:

15. Two-year institutions should indicate on their transcripts when credit has been given by challenge examination. Furthermore, the grade received on the challenge examination should be indicated on the transcript as the grade for the course.

Problem Challenge examinations appear to be a useful device for allowing students to obtain credit for knowledge acquired. However, the device may be a mixed blessing because it places burden on the student to "prove himself" a second time in order to receive credit. This guideline is intended to curb indiscriminate use of challenge examinations:

16. Challenge examinations or other mechanisms may be used to validate health professional experiences and allied health courses which have not been covered in existing transfer guidelines published by the Joint Committee on College Transfer Students.

Problem Knowledge may be obtained through means other than formal course work in an institution of higher education. Examinations have been developed by the College Level Examination Program (CLEP) of the College Entrance Examination Board which will permit an individual to demonstrate the knowledge he has acquired in general education and in selected subject matter fields. Scores achieved on these examinations may be equated to credit acquired in the conventional manner, but there may be reluctance on the part of institutions to recognize such examination scores for the purpose of transfer credit. The following guidelines are intended to address this problem:

17. All institutions of higher education are encouraged to make use of the CLEP General Examinations to the extent and in a manner appropriate to institutional purposes and curricula requirements. (Joint Committee on College Transfer Students).

18. Institutions which adopt the General Examinations are encouraged to award credit for scores at or above the 25th percentile of the national sophomore norms of the General Examinations--the minimum recommendation of the College Entrance Examination Board. (Joint Committee on College Transfer Students).

19. All institutions of higher education are encourged to adopt the use of CLEP Subject Examinations to the extent appropriate to curricula requirements. Credits should be awarded for scores at or above the average score made by "C" students in the national norms of the Subject Examinations--the minimum recommendations of the College Entrance Examination Board. (Joint Committee on College Transfer Students).

20. Receiving institutions should accept directly in transfer both elective and required credits awarded on the basis of CLEP Subject Examinations to the extent appropriate to curricula requirements. (Joint Committee on College Transfer Students).

21. Receiving institutions should accept for transfer credits in the major field of study when awarded on the basis of CLEP Subject Examinations. (Joint Committee on College Transfer Students).

Problems Involving Grades

Problem Some two-year institutions have adopted a concept of learning based upon behavioral objectives and a grading system using A, B, C, and I. Under this system a student may be given an "I" because he has not fullfilled the objectives of the course at an acceptable level. If he later fullfills the objectives, the "I" grade is replaced with A, B, or C. These guidelines are intended to provide a means of informing senior institutions when such a grading system is in effect:

22. All institutions of higher education should use the definition for an incomplete grade contained in the United States Office of Education's 1968 publication, Definitions of Student Personnel Terms in Higher Education, OE-50083.

"a grade used when the instructor is not able to give a definite grade for the term in view either of sickness of the student or of some other justifiable delay in the completion of certain work. A permanent grade for the term is recorded when work has been completed." (Joint Committee on College Transfer Students)

23. If an institution assigns an "Incomplete" for evaluations other than those indicated in the above definition, that institution should identify the various types of incomplete grades on the transcript and attach to each transcript a definition of the various types being used. (Joint Committee on College Transfer Students)

Problem Pass/fail grades do not convey enough information to senior institutions about the demonstrated ability of the student in the course in which the grade was given. Therefore, additional information must be obtained usually in the form of a letter to the instructor who taught the course. It appears desirable to avoid this situation whenever possible. However, pass/fail grades should not prevent a student from transferring or receiving credit for work completed under such a grading procedure.

24. Potential transfer students should be advised to avoid taking course work in the professional area and the basic sciences on a pass/fail basis if they have the option to do so. Receiving institutions should consider on an individual basis each student who wishes to transfer from an institution using either the pass/fail or satisfactory/unsatisfactory grading system. Other criteria such as high school records, standardized test scores, and college credit earned with traditional grades may be used in determining the transferability of that student.

25. In determining admissibility, P-F or S-U grades should not be given quality point values and should not be used in quality point ratio computation. (Joint Committee on College Transfer Students).

26. Receiving institutions should not place a limit on the number of transferable credits because these credits were earned with P or S grades. (Joint Commission on College Transfer Students).

Problem Students who have received "D" grades but are not given transfer credit for them are not treated the same as a senior institution's native students. The intent of this guideline is to alleviate this transfer problem:

27. Provided the transfer student meets the receiving institution's admissions requirements, credit for all passing grades from the sending institution should be accepted as transfer credits. This would mean, in terms of grades, that a transfer student encounters neither advantages nor disadvantages over a native student. (Joint Committee on College Transfer Students).

Problems Involving Curriculum

Problem Course work in general education may represent the most difficult articulation problem. General education course work in A.A.S. degree programs is not always regarded as transferable, There are questions then as to whether or not general education course work in an A.A.S. degree program (usually 18 quarter hours) should receive transfer credit, whether or not such course work is sufficient for a baccalaureate degree, and how credit for general education course work is determined. The problem stems from the fact that community colleges and technical institutes have attempted to design courses in the basic sciences, the social sciences, and the humanities to meet the immediate and practical needs of students in technical programs. The more that general education course work satisfies such needs, the less likely it is that it will be accepted as the equivalent of courses in senior institutions. Courses at the senior institution level in the basic sciences, the social sciences, and the humanities tend to be an introduction to the discipline that the course represents. In other words, so-called general education courses may be pursuing different goals at the two-year institution level and the senior institution level.

It should be noted, however, that community colleges have attempted to make their general education courses equivalent to senior institution courses and normally require such courses in their college transfer program. Students in allied health programs in community colleges may or may not meet their general education requirements with courses from the college transfer program.

28. Where practical, prospective transfer students in community colleges should be advised to take general education course work considered to be acceptable in senior institutions.

29. Transfer students from an A.A.S. degree program should be granted optimum credit for their general education course work by utilization of the most effective method of validation.

30. General education requirements normally are met at the lower division level, but transfer students with the A.A.S. degree may be required to meet other general education requirements for the baccalaureate degree.

Problem Courses are offered in one-year, two-year and four-year institutions which are not accepted as transfer credit because the receiving institution has no "parallel" course. In many instances, the course although not specific to the major interest area of the student are "college level" courses and could appropriately serve as elective credits or a minor area of study.

31. Course taught in one-year, two-year and four-year institutions which are applicable and appropriate to a major area of study should be accepted for transfer application to that major area even though the receiving institution has no such "parallel" courses.

32. Courses offered in one-year, two-year and four-year institutions for which the receiving institution has no parallel and which are not specific to the major of study of the transfer student should be considered favorably for acceptance as electives or for "minor" requirements. The amount of credit transferred in this manner could be accepted as fulfillment of a minor requirement but not a major requirement.

Problem Differences among allied health professions complicate the development of uniform transfer guidelines. For example, in the medical laboratory profession, the CLA program consists of courses which are introductory to the MT program. And the MLT program is introductory to the MT program in the same fashion. This means that a student transferring from one program level to the next needs recognition for the introductory aspects of each course at the upper level which he has mastered at the lower level. A different situation prevails in the dental auxiliaries. In this area, the dental laboratory technician, the denatal assistant, and the dental hygienist are viewed as members of independent sub-professions. Lateral transfer from one of these programs to another is not considered a problem. In some professions, baccalaureate programs are just being developed.

33. In the context of these guidelines, specific guidelines for transfer of credit between levels of professional education should be developed by each allied health profession to meet the unique characteristics of the profession.

Problem Students pursuing a basic professional curriculum (Transfer Model B) may find that the institution to which they are transferring does not offer upper division work in their allied health discipline. This is likely to mean that they will not increase their allied health professional competencies as a result of transfer.

34. Transfer students in the allied health professions should be required to take advanced professional course work for the baccalaureate degree. Institutions willing to accept transfer students in allied health professions but lacking facilities and expertise to offer advanced professional courses should offer such work through interinstitutional arrangements with institutions possessing appropriate facilities and expertise.

35. A Bachelor of Health Science degree should be established as a way of reducing proliferation of special degrees in the allied health professions and as a way of providing a program that is of an advanced or upper division nature.

Problem In recent survey of all public two-year institutions in North Carolina, 40 percent indicated that they permit vocational students within their institutions to transfer into technical programs; 16 reported that they do not permit such transfer. At the same time, only 9 out of 40 reported that they give full credit for courses completed in a vocational program to a student within their institution transferring to a technical program. Clarification of which courses are acceptable in this transfer situation will ultimately aid in improving transfer from the two-year to senior institution level.

36. Two-year institutions should establish guidelines for transfer from vocational to technical programs in the same allied health profession.

Problems Involving Student Services

Problem There appears to be an unexamined assumption underlying much of the discussion about transfer guidelines. The assumption is that the students for whom the guidelines are being written will be readily and easily identified in two-year institution programs. The assumption is particularly evident when it is suggested that transfer options be made known to students or it is concluded that transfer will be made easier if a student takes general education courses which are a part of a college transfer program. The fact of the matter may be that students in allied health professions become interested in transfer only after very successful performance in the first year or first year and one-half of their two-year programs. This means that the time has passed when they might have followed an option which would have better prepared them for transfer. In the case of general education courses, this means taking the courses again at the senior institution level, if such courses are not recognized as college transfer courses. These guidelines are intended to provide means of keeping students aware of transfer opportunities:

37. Two-year institutions should be responsible for maintaining current information on transfer in the allied health professions.

38. The performance of students with a potential for transfer should be closely monitored by counselors and faculty who should advise students about possible transfer early in their technical or vocational program.

Problem Because transfer students represent only a small portion of a senior institution's student population, they are often overlooked in a variety of ways. The guidelines below are intended to improve this situation:

39. Senior institutions should designate individuals in admissions to have responsibility for transfer in the allied health professions.

40. Faculty in allied health professions programs in senior institutions should be involved as early as possible in the process of admitting transfers.

41. Transfer students should be given the same consideration for the financial aid available in a senior institution as its native students.

42. Special orientation sessions should be provided by senior institutions for transfer in the allied health professions.

43. Transfer students should be given the same opportunity to enroll in courses as native students.

Problem Involving Institution Autonomy

Problem Transfer guidelines are meant to be voluntary so as to preserve institutional autonomy. The problem is to develop guidelines which promote a uniformity of practice that is greater than a series of bilateral agreements and at the same time to recognize institutional autonomy. The intent of this guideline is to preserve the balance between autonomy and uniformity of practice.

44. All institutions of higher education should be encouraged to approve these guidelines. Furthermore, all institutions should publish their policies relating to transfer of credit in allied health education programs.

Conclusion

These guidelines were developed to aid institutions in dealing with the transfer of credit for selected allied health disciplines. These recommendations have been approved by the Joint Committee on College Transfer Students. Specific recommendations for transfer of credit for each allied health discipline will be included in the revised edition, Guidelines for Transfer, which is published by the Joint Committee. Specific guidelines for each discipline have been documented in the official report of the articulation project.[2]

Additional efforts which will supplement these recommendations are identified in the next chapter, particularly those which relate to the continuing work of the Joint Committee.

NOTES

1. Joint Committee on College Transfer Students, Guidelines for Transfer, Chapel Hill: The University of North Carolina, 1973. Other recommendations of the Joint Committee are included with these guidelines and are so identified. Recommendations of the Joint Committee not included with guidelines may also be appropriate to special problems in the transfer of credit.

2. Ralph H. Boatman and John W. Huther, Allied Health Education - Transfer of Credit Recommendations of the North Carolina Articulation Project. Chapel Hill: The University of North Carolina, October, 1974.

8. CONTINUING PROBLEMS AND EFFORTS

For more than a decade in North Carolina, systematic efforts have been made to solve problems related to the transfer of academic credit. Many of those problems have been solved or eliminated. But other problems still remain. The allied health articulation project was a high point in this continuing experience. It addressed problems in a number of specialized educational programs. As a result, it served as a stimulus for examining barriers to the transfer of credit in other specialized programs.

Some of the remaining problems in the transfer of credit and some of the outcomes of the North Carolina articulation project are described in the sections which follow.

Continuing Problems

A major problem is transfer guidelines themselves. In North Carolina such guidelines are the product of a great many people's thinking and discussion. This process of broad involvement of individuals and institutions has resulted in acceptance of many of the guidelines even as they were being put down on paper.

However, the process has also resulted in more guidelines than anyone can easily remember. Moreover, it holds the promise of resulting in innumerable additional guidelines. Eventually, such a proliferation of guidelines will become a barrier in itself to individuals seeking help with specific transfer problems.

Observation of this process of developing guidelines suggests that the process is absolutely necessary. It brings people from different institutions together. More significantly, it brings people from the same educational programs together and allows them to discuss common problems.

But observation of this process also suggests that it should only be regarded as an evolutionary phase. The next phase should be one in which problems related to the transfer of academic credit are addressed in a few basic statements. The forty-four recommendations point to the conclusion that the following statements might ultimately be adopted as the policy for transfer of credit in allied health:

1. Work completed for the Associate in Applied Science degree should be accepted for credit transfer.

2. Knowledge and skills acquired outside educational institutions should be evaluated for academic credit.

If these were followed, the door would be open for upward career mobility through educational settings for individuals who began their study in technical programs and for those who acquired knowledge and skill on the job.

Another problem is the lack of clear career patterns in allied health disciplines which facilitate career mobility, particularly for those disciplines which include one- and two-year technical and four-year technology level classifications. This is troublesome because the primary entry to full professional status is not through the technical level position and the relationship of this position to the upper divisional four-year level classification for career mobility is not clear. This problem is one which the individual allied health professions must resolve in order to facilitate career mobility for the allied health technician.

As a result of the articulation project, a number of related problems were identified. They included planning programs for all post-secondary education, relationships and responsibilities among all post-secondary institutions, manpower needs, resource utilization, educational costs, and financing. Solutions to these larger problems will in part contribute to easing the barriers to transfer of credit.

Although there is an increase in the number of students seeking to transfer from two-year to four-year institutions, there is a dearth of data which shows transfer movement specifically to particular fields, especially the health curricula. If the data were available, they would reveal whether this study has had a significant impact on transfer of credit from technical education programs. While these data are not available now, an arrangement should be made to acquire information about transfers by allied health disciplines and/or allied health programs in order to obtain evidence of the effectiveness of transfer procedures.

Continuing Efforts

The initial study of articulation in allied health education was completed June 30, 1974 except for publication of the final report. Momentum generated in part by the project has continued and has extended beyond allied health education.

The contract for the project itself was extended to a third year and allowed two more allied health disciplines to be included in the study--physician assistant and therapeutic recreation. The complete results of these activities were not available for inclusion in this publication. However, recommendations of the articulation project were found to be applicable to many of the transfer problems in these two disciplines. In addition, an opportunity was provided in the extended contract for faculty and institutions to come together voluntarily to explore problems which continue to hinder transfer of credit.

The Joint Committee on College Transfer Students, which gave strong support to the allied health articulation project, continues to be a major force in North Carolina for developing policies and guidelines for credit transfer. Publications of the Joint Committee are prepared regularly and updated and expanded as its study committees recommend solutions to problems associated with transfer of credit. Currently, the publication, Policies of Senior Colleges and Universities Concerning Transfer Students fron Two-Year Colleges in North Carolina, is being revised.

Another recent publication of the Joint Committee, Guidelines for Transfer, is also being revised to include specific recommendations for transfer of allied health education credit for individual allied health disciplines as well as recommendations expected from two newly organized articulation studies--Technical Education and Nursing Education.

The Joint Committee on College Transfer Students has noted that although an increasing number of institutions accept transfer work taken in technical institutes, there are institutions not accepting such credit in initial transfer from technical institutes or in transfer from other accredited two-year or four-year institutions which initially accepted the "technical work."[1]

In view of the lack of institutional uniformity in the acceptance of technical credit and the problems reported by the institutions in determining the applicability of technical work, the Joint Committee decided that it should examine more closely the details which such determination involves and, if possible, develop additional recommendations as guides for the institutions. A sub-committee was appointed and directed to examine approaches used by both the two-year and senior institutions to determine the admissibility of students and the transferability of credit from technical programs. Possible areas of concern of this subcommittee include:

1. transfers from technical institutes into senior institutions
    a. which have baccalaureate programs built upon associate of applied science degrees,
    b. which do not have baccalaureate programs built upon associate of applied science degrees but which do acknowledge transfer of technical credit toward specific degree programs,
    c. which acknowledge transfer credit from the technical institutes toward specific degree programs, but have unclear policies in reference to transfers who, once enrolled at the senior institution, change degree programs or change to other senior institutions which do not acknowledge technical credit and,
    d. which do not acknowledge transfer credit from technical institutes.
2. transfers with an "associate in general education" degree from technical institutes to senior institutions
    a. which acknowledge credit for such a degree program,
    b. which acknowledge credit for such a degree program but who, once enrolled, change to other senior institutions which do not acknowledge credit for such a degree program, and
    c. which do not acknowledge credit for such a degree program.[2]

The subcommittee on Technical Education will address areas of technical or specialized education which have not been included in the allied health articulation project and the articulation study on Nursing Education.

The goal of the Nursing Education articulation study, which has used the allied health articulation project as a model, is "to develop procedures which will enable an individual to transfer credit from a nursing education program in one setting to a nursing education program in higher education. To achieve this purpose in a logical, comprehensive and academically sound manner,...the specific components of general education, nursing theory and clinical practice will be identified and defined, and further, that these components will be described as learning modules. Models of articulation will be developed recognizing and utilizing these modules in a holistic approach to nursing education."[3] Levels of nursing education included in this study are Licensed Practical Nurse, Associate Degree in Nursing, Diploma in Nursing, and Bachelor of Science in Nursing.

In addition to these two study committees a third committee on General Education was given the charge "to develop... a statement on general education and recommend a 'package' general education program which institutions might consider as acceptable in toto from transfer students in meeting their general education requirements."[4]

Recommendations of the subcommittee in General Education were approved unanimously by the Joint Committee on College Transfer Students and are expected to be helpful to all students transferring from two-year to four-year institutions of higher education.

Recommendations and guidelines from these studies, as well as recommendations from the allied health articulation project, will be included in the revised and updated publication of the Joint Committee, Guidelines for Transfer: Recommendations of the Joint Committee on College Transfer Students.

Conclusion

The advancement in knowledge and treatment of disease during the past century has resulted in a proliferation of the kinds and numbers of persons rendering health care. Out of necessity, these people represent a wide variety of types and levels of professional preparation. At one time, most of such professional preparation was acquired outside formal education institutions. But now, the entire spectrum of the post-secondary educational establishment is involved in supplying manpower for the health industry.

The transfer of credit is a major aspect of developing procedures for linking all components of post-secondary education. The North Carolina Articulation Project was not designed to resolve all problems associated with the transfer of credit. But it was able to significantly advance the cause of making the transfer of credit easier in allied health education. It also brought attention to transfer problems in other professional and technological areas of post-secondary education. Finally, it challenged the concept that the Associate in Applied Science degree is a terminal degree. This, in turn, has led to a new examination of the academic work in such programs.

The North Carolina experience with articulation has been a clear demonstration that a complex variety of institutions and educational programs can effectively work together.

NOTES

1. From Minutes of the Joint Committee on College Transfer Students, January 22, 1974, p. 3.

2. From Minutes of the Joint Committee on College Transfer Students, January 22, 1974, p. 3-4.

3. Project Narrative - Articulation: Nursing Education in North Carolina, p. 3.

4. From Minutes of the General Education Subcommittee of the Joint Committee on College Transfer Students, May 24, 1974, p. 1.

APPENDIX A

PROFESSIONAL DESIGNATIONS FOR SELECTED ALLIED HEALTH DISCIPLINES

Dental Auxiliaries

CDA	Certified Dental Assistant
CDT	Certified Dental Technician
RDH	Licensed Dental Hygienist

Dietetics

DT	Dietetic Technician
DA	Dietetic Assistant
RD	Registered Dietitian
ADA	American Dietetic Association
NCDA	North Carolina Dietetic Association

Medical Laboratory Specialists

AMT	American Medical Technologists
MT(R)	Medical Technologist registered by AMT
MLT(R)	Medical Laboratory Technician registered by AMT
CT(R)	Certified Technician registered by AMT
CLA(ASCP)	Certified Laboratory Assistant registered by the American Society of Clinical Pathologists
CLA(ASCP)	Medical Laboratory Technician registered by the American Society of Clinical Pathologists
MT(ASCP)	Medical Technologist registered by the American Society of Clinical Pathologists

Medical Record Administration

RRA	Registered Record Administrator
ART	Accredited Record Technician
AMRA	American Medical Record Association
RRL	Registered Record Librarian

Physical Therapy

PT	Physical Therapist
RPT	Registered Physical Therapist
LPT	Licensed Physical Therapist
PTA	Physical Therapy Assistant
R or LPTA	Registered or Licensed Physical Therapy Assistant
NCPTA	North Carolina Physical Therapy Association

Radiologic Technology

RT	Radiologic Technologist
RT(ARRT)	Radiologic Technologist Registered by the American Registry of Radiologic Technologists

Respiratory Therapy

ARRT	American Registry of Respiratory Therapy
AART	American Association for Respiratory Therapy
TCB	Technician Certification Board of the ARRT

Environmental Health Technology

RPE	Registered Professional Environmentalist
RS	Registered Sanitarian
RE	Registered Engineer

Physician's Assistant

APAP	Association of Physician's Assistant Programs
AAPA	American Association of Physician's Assistants

APPENDIX B

COMMITTEES FOR THE PROJECT

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Dr. John W. Huther
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* Replaced by Dr. Charles Powell, Director, Division of Health Sciences, Wayne Community College - September 10, 1974

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